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An Essay on Inflammation of the Cornea.

BY JAMES PAXTON,
Member of the Royal College of Surgeons, London.

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SOME observation and experience in the treatment of diseases of the eye, have led me to consider that there are two very principal distinctions in almost all inflammatory affections of this organ. It is not sufficient that we divide ophthalmias into acute and chronic affections. But if situation of the disease, and the peculiar texture and functions of the part affected be adverted to, rather than a comparative state of progression, we have a better prospect of forming a correct opinion of the morbid changes which take place, and of adopting a practice accordingly.

Ophthalmia, therefore, may be divided, 1st. into inflammation of the external or adventitious coverings of the eye and its appendages, the adnata, palpebræ, &c.; and 2dly, into inflammation of the proper coats and internal parts of the eye, the sclerotica, cornea, and contents of the globe of the eye. Further, external and internal disease of the organ of vision has been subdivided into diseases of the several parts which make up these general divisions. I am perfectly aware

these various affections often exist together; and a precise limitation to one particular part can rarely be observed: yet, where any of those parts which are more immediately the optical media become affected, they demand our most serious attention, inasmuch as any morbid change they undergo must be detrimental to vision. Thus much is premised, on a general view of the subject; for I only propose to notice one species of the latter division, viz. inflammation of the cornea. It being the object of this paper to point out a plan of treatment in this affection of the eye, which has proved successful, not only in the hands of an individual, but extensively with some others who have adopted it. The importance of a thorough acquaintance with diseases of the cornea is self evident, since it is the cause of blindness in the majority of cases which occur.

The same pathologic remarks are applicable to the cornea, as have been observed of other parts which are dense in their structure. As the cornea is less organized, so is it less prone to enter into diseased action; but when once disease is formed, in proportion as its texture seems endowed with little vitality, during a state of health, so is its sensibility increased under disease, and its continuance more obstinate. The sclerotic membrane is also subject to this kind of inflammation; frequently it suffers with the cornea; and when the latter becomes visibly vascular, the vessels may always be traced from the sclerotica.

The exciting causes of this disease are numerous: it is induced by outward injuries and constitutional disorders. Whatever may be the cause of inflamed cornea, it is characterized at its commencement by a sense of uneasiness, or pricking pain in the eye; watery discharge, great aversion to light, and constriction of the palpebræ follow. A faint scarlet colour surrounds the cornea; which, on close inspection, proves to be minute ramifications of vessels of the sclerotica. The pupil is contracted, the adnata of the globe of the eye, and where it lines the palpebræ, has an increased vascularity.* If

* These vessels appear distinct and tortuous; while the vessels of the sclerotica run in a straighter direction, and are more obscure.

the disease is severe, the orbicularis palpebrarum spasmodically closes the eye-lids; intolerantia lucis, or such sensation, is excited by the weakest light, which at other times is occasioned only by the vivid solar rays; violent pain in the head, or lancinating deep in the eye, indicate its malignancy. As the disease advances, the cornea soon appears dim, and a small whitish speck marks the incipient ulceration; which is sometimes so extensive, as to allow the humours of the eye to escape, by which the cornea becomes flattened, and the eye sinks in the orbit; no renovation of these parts can take place, but inevitable blindness is a certain consequence. Whenever the cornea ulcerates, staphyloma, leucoma, albugo, some kind of opacity, or defect of the cornea, will be its termination; which, according to its extent, must diminish the field of vision.

I forbear giving any minute account of the various effects to which inflamed cornea gives origin: it is sufficient for my present purpose, if the species of ophthalmia I allude to be recognized by the description I have given of its progress. At the same time, I wish to impress the necessity of adopting a prompt use of measures, to prevent such fatal consequences.

The treatment I have found most beneficial in this disease, consists in a topical abstraction of blood. Always, on the first attack of the disease, and whenever there is an accession of pain, cupping the temples, or the application of leeches to the adjacent parts, will prove of the greatest utility. Of these two methods, that of drawing blood by cupping is the most efficient; and, if the following method be used in performing the operation, no difficulty whatever will be experienced in taking any quantity of blood thought necessary.

After the scarifications have been made, and the glass applied in the usual manner, its lower edge is to be raised with the hand; otherwise, the exhausted glass presses the branches of the temporal artery against the bone, in so great a degree, as to prevent the vessels under the glass receiving their usual supply of blood, and of course, this compression must be a hindrance to the free bleeding of the scarifications. A want of attention to this particular, is the reason why only

a small and ineffectual quantity of blood is generally obtained; but if the above mode be adopted, any one may with facility draw the quantity required. It may not be amiss here to observe, that the hair should be previously shaved from the temple, and the common sized scarificator and cupping glasses will seldom be found too large.

Leeches may be applied to the upper and lower eye lids; which, by taking blood as near as possible to the seat of the disease, much expedites the cure; and in all internal inflammations this should be done as early as possible; afterwards, tepid fomentations will at once encourage the bleeding, and contribute in subduing the inflammation. On a well-timed depletion of this kind, I have noticed the disappearance of those urgent and distressing symptoms, pain and irritability to light. Leeches may be used where the disease occurs in delicate females, who feel terrified at the idea of a cupping instrument; but in most cases, the employment of the latter, on several accounts, will be found more expedient.

As this remedy often proves but a temporary relief, it will be necessary to have recourse to this practice, whenever pain is experienced in the part affected. In a very severe case of inflamed cornea, which succeeded a purulent ophthalmia, and where ulceration seemed inevitable, no other remedies appeared to suspend the progress of the disease: after four or five ounces of blood were taken from each temple, the patient's eyes were easy, the cornea became more clear, light more tolerable, and lachrymation diminished: but a recurrence of these symptoms demanded a repetition of the operation; in the course of five weeks, no less than eleven times. Besides cupping, various applications were used, as fomentations, sedative lotions, blisters, &c. Several times also this patient went into a warm bath: these, I apprehend, were useful auxiliaries; but I could attribute that decided good effect to none but the cupping, to which I ascribe the eventual restoration of the patient.

With regard to the many different applications which are in request, I have found none so useful as a pledget of lint or soft rag, moistened in a solution of opium, of the following

proportion. ℞. Extracti opii ʒij. Aquæ ferventis ℥xii. Solve et liquorem frigefactum cola.

This remedy will contribute to abate irritation and inflammation, in a more powerful degree than any other I am acquainted with; indeed, the cooling and astringent lotions it has been customary to recommend, which undoubtedly are serviceable in inflammations of the adnata, I consider injurious in this species of ophthalmia. The class of medicines called sedatives, deserve a preference: aqueous solutions of the extractum belladonnæ, hyoscyami, conii and opii, are found of essential service; and frequent trials authorise me to say, no apprehension need be entertained, that these applications will paralyse the iris: on the contrary, after a continued use of the belladonna for a fortnight, the pupil remained obstinately contracted. In this place I would again observe, that whenever the cornea is inflamed, the use of any astringent or stimulating collyria, will be an additional cause of the duration of the disease; and, I think, has been a fruitful source of mischief. If the rays of light (its natural stimulus) prove too great an excitement, how much more so will be irritating applications? The precaution of excluding the light, by means of a black or green shade, is therefore advantageous; and as smoking tobacco and a smoky room have been known to cause a relapse, they should be avoided.

Blisters, setons, issues, and other modes of producing revulsion, or counter irritation, may be considered as remedies possessing only a secondary advantage.

With respect to medical treatment, I believe no remedies have been recommended as materially counteracting the disease: it is rather left to the practitioner to adopt a medical line of practice, which constitutional exigencies demand, and his judgment dictates. As a general observation I would note, that the same diet and regimen are necessary as in other inflammatory disorders. The digitalis, from its supposed powers in lessening the action of the heart and arteries, under my own observation, has had repeated trials; but without proving advantageous. It has been observed, that in instances

where the patient has had occasion to use mercury, the disease, under its influence, has been greatly aggravated.

Among the best internal remedies, I feel a confidence in recommending the use of nauseating doses of antimonium tartarizatum. Scarpa indeed ordered this medicine, but merely considering it as a purgative: however, I have no doubt but it has other effects peculiarly advantageous in ophthalmias. First, as it relieves the aridity of the skin, a circumstance which may have brought on the disease; and, secondly, the temporary sickness which it induces, causes a debility, particularly of the superficial vessels of the body; and though actual vomiting may cause a greater determination of blood to the head, yet the operation of emetics, short of this, has quite a contrary effect; manifestly producing a paleness of countenance and languor, intimating a diminished force in the circulation. One grain of tartarized antimony dissolved in eight ounces of barley-water, may be given in divided doses, so as not to occasion violent purging, or actual vomiting. The good effects which I had observed from sea-sickness, when accompanying ophthalmia patients on board transports, first suggested this practice; and I found similar advantages from the use of the antim. tartar. at a time I had charge of a great number of the foregoing disease in the ophthalmia depôt at Danbury.

It will be seen, I have considered inflammation of the cornea only abstractedly, without describing its various combinations with other diseases of the eye; nor will this limited communication admit of it; it would necessarily include purulent ophthalmia, and diseases of the palpebræ. Thus the cornea may become inflamed from an inverted palpebra; when it is evident this source of irritation must be removed, before any application of remedies can be advantageously made; indeed, very often, the cilia ceasing to be a cause of the corneal affection, the disease will spontaneously get well. Should a particle of glass, a scale of iron, or other extraneous substance, have induced the disorder, the eye should be carefully examined, in order to discover and remove the offending substance, should it still remain; commonly the flux of tears may be sufficient for this purpose; but I have known a bit of thorn imbedded in

the cornea for some days, and occasion an extensive suppuration, which might have been prevented, had it been removed with the forceps. From this consideration, a minute inspection of the eye, in all cases, should never be dispensed with.

A tedious form of the disease under consideration, often occurs as a sequel of an acute ophthalmia; probably, where a decided antiphlogistic regimen has not been carried to the extent the nature of the disease required. This sub-inflammatory or chronic inflammation of the cornea, is frequently seen in children of scrophulous habits: increased sensibility to light, lachrymation, and deep-seated vascularity of the surrounding sclerotica are its attendants; these symptoms will be augmented by a bright light; and on examination of the eye, causes a copious effusion of tears. I am inclined to think this affection of the cornea occasions that weakness of sight mentioned by Mr. Stephenson; though he attributes it to an inflammation of the retina, or choroid. My reason for the former opinion is this; that, should the disease be of long continuance, the cornea becomes cloudy, or even ulcerates. Is it not, therefore, just to conclude, at least in this instance, that the "morbid sensibility" depends on a chronic inflammation of the cornea?

The means I would recommend for the cure, does not materially differ from that employed by the last named author, excepting that instead of leeches, I more frequently use cupping to the temples; which is put into practice whenever there is pain, or a hot discharge of tears. The sensation of heat in the lachrymal discharge, is a sure sign of increasing disease; though it is a mistake to suppose this secretion has an increased temperature at one time more than another: it is but the exquisite sensibility of the eye that causes this sensation. Dropping the aqueous solution of opium into the eye, will likewise greatly assist in quieting the irritation. The eyes should be protected from a strong light; and a spare diet, with the occasional use of purgatives, are to be recommended.

A lad, about twelve years of age, was brought to me with a chronic inflammation of the cornea. Numerous vessels were observed in the lamina of the sclerotica, particularly round the

margin of the cornea, and some minute branches might be traced into it. He was unable to read, unless a very large type; and even this effort gave pain: an exposure of the eyes to light, caused a copious flow of tears. He had had the small-pox when about four years old, since which time he had been subject to repeated attacks of ophthalmia. The disease had now existed for five months; and, notwithstanding the use of a variety of applications, the complaint gradually became worse. I drew blood from each temple with a cupping glass, and directed the solution of opium to be instilled into each eye, three times a day, and pulv. jalapæ gr. viij. hydrarg. subm. gr. j. alternis diebus mane sumendus. The good effect of this practice was observable in a few days. In the course of a week cupping was repeated, and blisters applied, and kept open behind the ears; still continuing the use of the solution of opium. In a fortnight, the lad threw aside his green shade, and his eyes appeared perfectly well.

I beg leave to subjoin one instance, in which the solution of opium alone, seemed to possess the power of suspending the inflammation.

A medical gentleman asked my opinion of an ocular complaint, with which his right eye had for some time been affected. No pain was experienced, except from luminous objects, or a strong light; he complained of dimness and weakness of sight. On a close examination, I could observe two small ulcerations of the cornea. The adnata had its natural appearance; but some vessels of the sclerotica could be obscurely seen to proceed towards the situation of the ulcers, and a magnifying glass traced them into the cornea itself. The solution of opium was advised to be dropped into the eye; its use was continued for eight or nine days, and the eye perfectly recovered.

A Case of the Operation for Empyema, followed by a Discharge of upwards of Five Hundred Hydatids.

BY DR. FRETAU, OF NANTES.

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HOWEVER rare collections of pus in the thorax may be, the employment of the proper means for their removal seem to be much more rare. Two celebrated Academicians, Foubert and Ledran, long ago complained of this circumstance, dissection having oftentimes pointed out to them how serviceable the operation would have been, had it been resorted to during the patient's life.

The operation for empyema is neither dangerous in itself nor very painful. The cause of its being so rarely practised, is our want of knowing the precise seat of the purulent collection. But if there has been thoracic inflammation, without a critical resolution taking place; if a sense of weight is experienced in the part formerly attacked with pain; if there come on difficult respiration, a dry cough, febrile symptoms, and wasting of the flesh; if the patient can only lie on the affected side, cough and dyspnœa following his attempt to lie on the opposite one; if the ribs appear more elevated on the affected side, and the intervals between them more distinct; if this side also appears swelled; and if, upon striking the side with the fingers, an obscure sound is perceived, different from what is observed in its healthy state; lastly, if a tumour arises in the part affected with pain, or in a depending part of the thorax, we may, from this assemblage of symptoms, certainly conclude, that there subsists a collection of pus in the thorax. I have successfully performed the operation for empyema in the part first attacked with pain.

Mademoiselle Chatellier, aged 9 years, was seized with the symptoms of inflammatory peripneumony, accompanied with bloody expectoration, and a fixed pain in the right side of the chest. The disease, at first, was left to the feeble efforts of nature; but in about twenty days, a great sense of weight

was felt in the affected part; a fever attended the suppuration, and night sweats succeeded; the expectoration was decidedly purulent. In a few days matters were at the worst. Being at this time called to the little patient, I examined the seat of the pain, which I found rather hard; I applied a cataplasm, and in a few days there appeared a slight inflammation in the part; I made an incision, and an enormous quantity of pus was evacuated; the expectoration soon diminished, every thing wore a favourable aspect, and in about two months from the operation, there scarcely remained any vestige of a disease, which, without surgical assistance, would have proved fatal.

I have also very recently had occasion to perform the operation for empyema in the most depending part of the thorax.

Pierre Berthelemi, a tinman, aged 28 years, of a small stature and nervous constitution, had attained the age of 25, without experiencing any serious inconvenience. Being at this time confined in a dungeon, on account of some forgeries, he suffered a great deal there, and came out in December 1808 with a copious psoric eruption, swelled feet, and a complete derangement of the gastric system; for these complaints he was methodically treated, and became entirely well in about two months. He now exerted himself in his employment with indefatigability, and continued it with success for two years, when he was exposed during hard labour to alternate heats and colds. In the beginning of January, 1811, he was confined to his bed with a rheumatic affection, which had its seat in the abdomen. It took on a nervous character, and I suspected that his working in lead might have some share in producing his complaint. In about three months after this, Berthelemi was again seized with pains in all his limbs, which he immediately wrapped up in woollen clothing. This second attack did not confine him so long to his bed, but his recovery was less complete; and the changes of weather occasionally renewed his pains.

On the 30th of last August, this man was suddenly attacked with pains in his loins, and more particularly in the right side of the chest; the pain extended to the arm of that side, and also to the shoulder, so as to give suspicion of the liver being

affected. He had fever with a hard pulse, oppression, hickup, and high coloured urine. He made use of a suitable regimen and cooling diluents; leeches were repeatedly applied, and the symptoms were gradually relieved. The fever had entirely ceased by the tenth day of the disease, but the pain in the shoulder and the thorax still remained, although with less intensity. Burgundy pitch plaisters were applied to the parts. The patient could not walk upright; he was pale and wasted. He passed the month of September in the country, and made use of a milk diet; in the latter part of this month he was seized with a troublesome dry cough. On his return to town, the 2d of October, he told me he had lost the pain of his arm; that the pain in his shoulder was much less, and that his complaint in the right side occupied but a small space, and was fixed in the posterior part of the thorax; that the cough was always troublesome, and that sometimes respiration was very difficult. In this state of things I was led to examine the thorax very accurately; and I readily perceived, at the posterior and inferior part of the right side, a swelling occupying about the space of a playing card. It was situated about two inches from the spine, and its centre was between the tenth and eleventh ribs. I ascertained, by percussion, that the right side gave a more obscure sound than the left, and I found that the patient could only lie on his back or right side: I therefore now entertained not the least doubt of there being pus or water collected.

I applied cataplasms to the swelling, in hopes of increasing the congestion towards that part. I visited him every fourth or fifth day through the month of October, without finding much change. The centre of the tumour, however, had become softer, and more pointing. The patient at this time had night sweats, and began to expectorate puriform matter; he had also irregular accessions of fever. On the 10th of November, the patient experienced a protracted fit of coughing, and spat up half a wine glass of purulent matter. The part being examined by M. M. Bacqua, Taillé, and myself, we felt an evident fluctuation in the centre of the tumour; the fluid receded into the thorax upon pressure, and when the patient coughed, the tumour re-appeared. It was decided to open the

tumour immediately. An incision, about eighteen lines in length, being made through the skin, in the centre of the tumour, between the third and fourth false ribs, and in the direction of the bones, we perceived a white cyst forming a hernia between the intercostal muscles. This cyst was opened; there first flowed out several spoonfuls of clear limpid water, and immediately afterwards, a great quantity of yellowish pus. The wound was dressed with a simple tent, covered with compresses, and the whole were retained by a scapulary. The patient experienced great relief from the operation, he neither complained of the pain in the back, nor of oppression. The next morning the dressings were removed; the cyst was found upon the compresses, and it appeared to have been, in its entire state, about the size of a goose's egg. Sixteen double compresses were at each dressing moistened by a yellowish purulent matter. Other cysts very soon came out of the wound; and on the fifth day from the operation another was protruded, the size of the first. On the tenth day were discharged several hydatids, the size of small bird's eggs; they were filled with a transparent serosity.

In the night of the 15th day, the patient having been much fatigued, felt a great anxiety about the præcordia, coughed excessively, and expectorated ten reddish hydatids, the size of lentils; they were entire, and envelloped in reddish mucus, similar to glue. The next morning, when the dressings were removed, the suppurated matter had become thick, of the colour of gooseberry syrup, and among it were twenty hydatids of a flattened shape, containing a kind of gelatine. These vesicles resembled grapes dried on the vine, or rather preserved cherries.

On the 17th day from the operation, (that is, the 29th of November) the patient was seized with cold sweats, accompanied by great oppression; the cough was very excessive, and the patient expectorated several red hydatids, with about four ounces of mucus, of a fibrous appearance.

I had observed, that until this time the pulse was always small and weak, and that the expectoration came on in great abundance every eight-and-forty hours. On the 3d of Decem-

ber, there were twenty-four hydatids upon the dressings, of the same colour as the former ones; and the next day, after the morning dressing, the patient was almost drowned in his bed by a copious discharge of matter, of a syrupy consistence; there were also about one hundred hydatids. Next morning the compresses, the bandage on his body, and the bed clothes were inundated with the same matter, in which were counted 150 hydatids; this was not all; for after cleaning the wound, the patient was desired to cough, (which he generally did every ten minutes) and about half a pint of reddish matter was discharged, among which we could discern some streaks of yellow pus. A great number of hydatids were also swimming in it. From the 5th to the 9th, the patient went on tolerably, and the wound discharged 80 hydatids.

On the 10th, about two hours after the dressing, he was seized with repeated troublesome coughing, threatening suffocation; he had syncope and cold sweats; towards noon were coughed up two bags of hydatids, of a pale colour, six or seven lines each in length. He passed the night favorably as well as the day of the 11th.

On the 12th, the patient appeared fatigued; there was copious muco-purulent expectoration; the discharge from the wound was reddish, serous, and very fœtid. There were about 15 hydatids removed at the evening dressing.

From the 12th to the 14th, the wound produced a thick white matter of a good appearance, and not very abundant. The patient sat up, was without fever, and had a good appetite; he would have slept well, had he not been frequently awakened to expectorate some remains of hydatids swimming in a thick tenacious mucus, of which the quantity was very large.

He continued nearly in the same state until the 20th.

The patient had taken tar water for the last twenty days, had drank a decoction of the lichen islandicus, and also lime water, which he took gradually to the dose of three ounces in the day. He also took pills of sulphur and calomel, and a blister was applied to the arm.

This day, the 26th of December, (the 45th from the opera-

tion) the wound was much contracted; the tent, however, could easily be introduced. At first, it was introduced to the depth of three inches, in a direction upwards. At present the tent did not reach above an inch. The patient was without fever, had appetite, and continued sitting up. He could have gone out had the season permitted; he continued to expectorate hydatids occasionally.

From the 30th day after the operation, the patient could lie easily upon either side, which he had not been able to do for four months previously.*

The presence of hydatids in the chest has been ascertained in several instances; sometimes by examination after death, and at other times by the expectoration of portions of membranous substance which have been considered as shreds of the hydatids; but in the case I have recited, twenty entire hydatids were expectorated, about five hundred were discharged by the wound in the thorax, and to a certain degree the patient may be considered out of danger. The discharge of these hydatids was witnessed by several practitioners in Nantes. Great part of them were dried upon plates of glass, and kept in solutions of super-oxygenated muriate of mercury, or of sulphate of alumina; this latter in general altered the colour less. Many of the vesicles were flattened, the sides being pressed together. The red colour of the expectorated matter was undoubtedly owing to some of these substances being broken down. Part of the hydatids had a round form, the greater number were oval; some were white, and contained only a very limpid serosity, the greater part were of a deep red, and on this account strongly excited the curiosity and surprise of the public. They contained a kind of very thick jelly; others were of a straw colour. Three of them were as large as goose-eggs, one the size of a pullet's egg, and twelve as large as pigeon's eggs; they were white, and contained a

* It appears by a letter, written to the Editor a month after the case was sent, that the patient continued mending; the wound was reduced to a small fistulous opening, with a slight discharge of a healthy appearance; no hydatids had come away for twenty days; the patient was without fever, had a good appetite, and was fast recovering his flesh and strength.

clear serum. The greater part of the red vesicles were about the size of a grape, some as small as lentils, and a few resembled hemp seed in size. Externally the vesicles were smooth, and appeared to be of a homogenous cellular structure. In examining them attentively, two membranous layers could be discovered; the internal surface was villous. In general, the cyst possessed a certain degree of resistance, several vesicles fell to the ground without breaking. One of the largest of the cysts was dissected by M. Bacqua and myself; it consisted of three distinct membranous layers, which could easily be separated; in the inside were several oval bodies, containing an albuminous liquor. All the vesicles appeared to be porous, so that the deepest coloured ones, after being left in cold water some time, parted by degress with their colouring matter.

Lymphatic vesicles, called hydatids, have been frequently observed in the human body, and have always been considered as the effect of some disease of the parts where they are situated. Such was the opinion of Vesalius, who found eight or ten vesicles as large as goose-eggs in the ovary of a woman, who died of a dropsy of the uterus; of Ruysch, who relates, that a surgeon, supposing a certain woman to have a collection of pus in the thorax, set about performing the operation for empyema, and pierced the abdomen in the right hypochondrium, whence issued a great number of vesicles: upon dissection, it was ascertained that they had their seat in the liver, the whole substance of which was one complete mass of hydatids; of Camper, who speaks of a woman dying of encysted dropsy, in whom were found above two hundred vesicles floating in purulent matter; of Litre, who found in the great lobe of the liver, a considerable quantity of purulent matter, in which were swimming a great number of oval vesicles filled with transparent viscid fluid; of Morgagni, Lieutaud, and many other authors I could quote, who all agree in considering hydatids as being the result of morbid affection, depending upon a change in the cellular texture, the vessels, and the fluids which circulate through them. Thus Ruysch says, *Hydatidas esse extremitates vasorum sanguiferorum quæ priorem suam mutaverint naturam.* Others have given explana-

tions of their formation, more or less ingenious, but all erroneous. It has been for some years asserted, that hydatids are produced by a worm having the generic characters of tænia, which has been denominated *tænia hydatigena* by Pallas, to whom we are indebted for the first methodical work on this subject. Muller, Leske, Bloch, and several other naturalists, have extended the observations of Pallas, and the medical and zoological treaties of M. Mougeot appears to contain all that has hitherto been said on the subject. Since the labours of these celebrated naturalists have become more known, and have drawn the attention of anatomists to the vesicular worms discovered by Hartman and Tyson, most physicians who have met with disengaged vesicles of a soft texture in the human body, have not hesitated on the faith of these naturalists, to consider them as real tæniæ hydatigenæ; yet it must be confessed, we look in vain for the true character of tænia in these vesicles.

Werner found in an open cyst, in the superior part of the thigh, some disengaged vesicles, as large as eggs, which at first sight appeared to resemble the tænia hydatigena, but on an attentive examination, he could discover neither head nor tail, only some small granulations on their internal surface. These vesicles, submitted to the greatest magnifying powers of the microscope, were of a homogenous structure, without any visible organ; Werner therefore concluded, that they were not worms, but only degenerated lymphatic vessels. Dr. Darbefeuille, surgeon in chief to the hospital at Nantes, found a great number of similar hydatids in a breast he took off; he examined them with a microscope, and formed the same opinion as Werner. However, it must be acknowledged, there is a great difference between those firm membranous vesicular tumours strongly attached to parts, and the softer vesicles free from all adhesion, and floating in cavities. It was reserved for Dr. Laënnec, a physican at Paris, to throw complete light upon this subject. "These vesicles," says he, "are animals to which the name of *acephalocysts* should be given; under the microscope, this vesicular worm presents a homogenous texture, in which no organ can be distinguished; its cavity is

filled with a fluid, which is generally perfectly limpid, and has all the properties of pure water mixed with a little albumen." Dr. Laënnec observed on their internal surface some granulations, small oviform bodies, which are, he thinks, destined for the reproduction of fresh hydatids; it appears to him, that at a certain period of their growth, these floating worms are detached from the sides of the parent, fall into the cavity, and afterwards increase in size. He has several times met with these vesicular worms, containing others in them; these latter also containing others. It is presumed, that when these new worms attain a certain size, they occasion the mother to burst, by their great distension; for we almost always find the largest vesicles ruptured. This mode of reproduction does in truth enter into the plan of the great Creator. Polypi are regenerated by buds which adhere to their sides, and when their growth is perfect, they separate from the individual which produced them.

The acephalocyst, according to M. Laënnec, is the most simple of all insects; it appears only in the form of a membranous bladder, of the consistence of half concreted albumen, in which the eye, assisted by a microscope, can discover no distinct organ. This simplicity of organization might almost lead us to doubt if these vesicles were real animals, but their reproduction is an incontestable fact, and their automatic motions, no equivocal sign of life, leave no doubt concerning their vitality.

M. Percy observes, that the opportunities of ascertaining the characters of animality and the vitality of hydatids in man are very few, on account of the time which generally elapses between death and the dissection; this, he says, prevents our finding them alive. He says, however, that when discharged from the human body, they have, in an hundred instances, been observed to tremble and to move. I must confess, I have never observed this, although I have seen at least 500 hydatids discharged from the thorax of a living man, and have frequently assisted M. M. Chireau, Richard, jun. Bacqua, Darbefeuille, Fouré, Taille, Cochard, Aublanc, and Lafont, in endeavouring to ascertain their vitality. We have also been

assisted in our labours by M. M. Dubuisson, keeper of the cabinet of natural history, and Leboyer, professor of physics at the Lyceum; and none of us have been able to recognize any of the characters of the tænia hydatigena.

I think myself authorized, therefore, to range these hydatids in the species of vesicular insect designated by M. Laënnec, all under the name of acephalocysts; it will readily be seen, that which has been said by physicians concerning hydatids, must have reference only to this vesicular insect. Besides, whoever has read with attention the descriptions given by Pallas, and have examined with care these vesicular worms, will be convinced that the latter are far from having any of the characters of the tænia hydatigena, observed by that celebrated naturalist in sheep and pigs.

Thus, in the present state of our knowledge, we must no longer regard hydatids as the effects of a morbid state of the lymphatic system; such an opinion would be far from the true one. Hydatids are real animals, which must be classed among the vesicular worms, and be henceforth designated by the name of acephalocysts.

Extracts from J. C. Saunders' letters to Mr. Stevenson on the Operation for Cataract, dated April and August, 1808.

[From the New Medical and Physical Journal, for October, 1812.]

"My Dear Friend,

"I confide the method of operating which I pursue for Cataract to your honour, and I am very certain that it is safely deposited. I shall not have time to point out all the advantages which result from this deviation from the old method of couching; but simple as they may appear, they are very important, as you will perceive when I detail all the circumstances, which I shall sometime do, in a Treatise on the Cataract.

"I always use the solution of belladonna,* and never be-

* It ought to be generally understood, that the influence of the belladonna in producing a dilated condition of the pupil, is equally great when

gin the operation until the pupil is as much dilated as it will admit of, keeping the eye, by means of Pellier's elevator, or else my own fingers, as steady as possible. The object of my introducing the instrument into the eye is, to cut the capsule in the *anterior* part of the crystalline; and therefore, as the

the extract, made of the consistence of cream, is thickly besmeared, and suffered to remain for an hour or two over the skin of the palpebræ, as when it is introduced underneath them, immediately upon the anterior surface of the globe of the eye. As I have repeatedly witnessed, in irritable and chronically inflamed states of the organ, a very considerable degree of excitement of the vessels of the conjunctiva, accompanied with severe temporary pain, induced by the latter and more general mode of applying the remedy, I do not hesitate exclusively to recommend its *external* employment, which, whilst it alike secures the specific effect of the belladonna, is not productive of the slightest inconvenience in any respect. I cannot omit to add, that a strong infusion of the stramonium instilled into the eye, is also very effectual in causing a dilatation of the pupil, with the advantage too of exciting infinitely less irritation and uneasiness than the former narcotic used in the same way. In a few cases I have known double and confused vision, and different kinds of ocular spectra invariably follow its use. Lady T. to whose eye I applied it rather liberally with the view of enlarging the pupil which had become nearly obliterated from preceding internal ophthalmia, never failed to experience these effects to a most remarkable and alarming degree; nor did they ever entirely subside till some days had elapsed after the discontinuance of the belladonna. However, it must be admitted, that such is by no means the *general* consequence of its employment. On the contrary, in by far the majority of instances, it seems to exert its peculiar agency *solely* upon the iris; the sympathetic, as well as associated actions of which, for a time, it wholly destroys. The supposition that attributes this influence to its specific operation upon the radiated *muscular* fibres of the iris is however unquestionably gratuitous, and many plausible arguments (which are enumerated in my Lectures on the Eye) might be adduced in opposition to that hypothesis. The iris possesses, indeed, in all its motions, a peculiar mode of action, differing essentially from what is observed in every other kind of organized texture. Its usually expanded or passive condition in amaurosis proves that the contracted is a state of activity or violence; and its motions cease at the moment of death, and cannot, like those of *muscular* fibres, be renewed by the application of stimuli. And when accidently cut, by falling before the knife in the operation for extracting the cataract, it hangs loosely pendulous in the aqueous humour, without manifesting a disposition to contraction. Blumenbach believes, (and of this opinion is the illustrious Haller) "the cause of its motions depend on its vita propria, or peculiar vital properties, since the iris, he remarks, both in regard to its structure and vivid colour, as

lens is generally more dense towards the *centre*, I take care that it shall pass through the crystalline as near to the capsule as possible. That the instrument may traverse the lens freely, you will observe that it is made of the greatest admissible tenuity, and flat, and that it cuts towards the point on each side. I find by experience, that it can be conducted, with care, through the hardest lens; whereas the needles, such as Scarpa's and Hey's, only push the whole lens before them, and without being able to carry the instrument to the capsule, the lens is made to press on and protrude the iris, whence results the consequent inflammation. As for the crystalline itself, you may or may not meddle with that; it may be well to loosen its texture in some instances, but you ought never to depress it. The instrument should enter the sclerotica about a line behind the ciliary ligament, and should be conducted through the anterior part of the crystalline which is the softest. You may loosen the texture of the cataract before you divide the capsule, or after, as in the operation seems most convenient, but the *capsule must be divided at all events*. I do not much care what becomes of the *substance* of the crystalline. I sometimes let it go in considerable quantity into the *anterior* chamber, *if it seems tending that way*, but I never push it, because that must press the iris. N. B. Follow Hey's rule, to be careful *not to do too much*. After the operation, the plan with me is purely antiphlogistic, and I believe you well know what that is. If your operation should not succeed at the first attempt, describe to me the appearances, and I will gladly give you my sentiments as to repeating it.

well as with respect to its actions, is altogether singular and anomalous. Nor has he been able, he adds, in a single instance, to detect the existence of *muscular* fibres, not even in the elephant and whale, any more than in the owl and the white rabbit." And, as we must believe in the *identity* of *muscular* fibres, and in their subserviency to the *same laws*, in whatever situation they may be found, if the inspissated juice of the herb alluded to, produces a dilation of the pupil solely by virtue of its action upon the *radiated muscular* fibres of the iris, ought not, on that supposition, the orbicularis palpebrarum, with which the remedy is in much closer contact, to be at least simultaneously, if not primarily affected?—*Note by Mr. Stevenson.*

"With respect to congenital cataracts, from the repeated conversations we have had on the subject, it seems scarcely necessary for me to remind you that they are generally capsular, the whole or the greater part of the lens having probably been, at some antecedent period during the fœtal state, spontaneously absorbed. I shall only add to what I have already stated, that the steps to be pursued in the operation are nearly similar to those adopted for lenticular cataract; the great object being, either to make a sufficiently large central aperture for the rays of light to pass freely through it to the retina, or else to endeavour to tear the condensed capsule into as small fragments as possible, when it will become soluble in the aqueous humour, and be gradually absorbed; for which purpose, you may use the needle with much more freedom than in the former case.

With our united regards,

I am, yours faithfully,

J. C. SAUNDERS."

Experiments made on certain Preparations of Gold.

By M. VAUQUELIN.

Read to the Society of Pharmacy, at Paris.

[From the New Medical and Physical Journal, for April, 1812.]

Since M. Chrestien, a physician at Montpellier, has published an account of the effects which he obtained by certain preparations of gold in syphilitic and scrophulous complaints, and has asserted that these preparations are never attended with the inconvenience which sometimes results from mercurial compositions, other physicians have begun to employ them. The forms under which they have commonly been used are, 1. Gold in a state of minute division. 2. The muriate of gold. 3. The oxyd of gold precipitated by potass. 4. The precipitate obtained from its solution in muriatic acid by metallic tin. There is some difficulty in obtaining these preparations always in the same state; and as a principal

object in medicine is uniformity in the quality of remedies, I thought it might be useful to examine these substances, and to determine with exactness the best methods of procuring them.

1. *Of the Quality and Quantity of Nitro-muriatic Acid most suitable for dissolving Gold.*

Formerly it was usual to compose the nitro-muriatic acid of two parts by weight of nitric acid and one part of muriatic acid. But considering that gold requires for its solution only a very small quantity of oxygen, and that the nitric acid is of no further use than to supply this, I thought, that by forming the *aqua regia* in proportions inverse to those, I should better accomplish this end. And, indeed, three parts of nitro-muriatic acid formed in this last way is sufficient to dissolve gold, whilst it requires four parts of the other. That a very small quantity of oxygen is united with the gold at the time of its solution is evident by the trifling extrication of nitrous gas, and yet there is reason to think some part of this gas is formed by the action which takes place between the two acids, since it is also disengaged from the oxygenated muriatic acid. The solution of gold, evaporated in a proper manner, crystallizes in prisms of a yellow colour, whose form has not yet, I believe, been very exactly determined. The evaporation of the solution should be conducted with very careful management, otherwise a part of the salt is decomposed, and the gold re-appears in its natural state, in the form of very small leaves. The solution of the muriate of gold is acted upon differently from the other metals by the fixed alkalies, most of the other metals are precipitated in the state of oxyds. Potass, soda, barytes, and lime, do not in the least render turbid the solution of gold in the cold; it only takes an intense red colour with potass and soda, something similar to that of Stahl's martial alkaline tincture; time produces no change in the limpidity of these mixtures. Barytes and lime do not produce the same colour in the solution of gold, owing, without doubt, to the great quantity of water required to dissolve them. If after having completely saturated the

acid of the solution of gold, the mixture is heated, a red matter is separated in the form of large flakes, resembling in appearance the oxyd of iron at a maximum. If an excess of caustic alkali, ever so small, is poured into the liquor, and it is made to boil, the volume of the precipitate is much diminished, and it takes a colour, which viewed in the mass appears brown, but is in reality blue; for the molecules of the matter suspended in the liquor, which is of itself slightly yellow, causes it to appear green.

The liquor from which the matter above spoken of is precipitated by potass is quite colourless, but if it is saturated with muriatic acid, it immediately takes a yellow colour, like the ordinary solution of gold, and the sulphate of iron precipitates from it metallic gold. All the washings of the precipitate, even to the last, afford signs of the presence of gold, which indicates that the matter is slightly soluble in water; the last washings, however, contain less gold than the former ones. When the liquor contains a certain quantity of gold, the precipitate which is formed by the sulphate of iron speedily takes a brown colour, whilst in the liquor which contains a very little gold, no precipitate at first takes place by the sulphate, only the liquor becomes of a fine transparent blue colour; but at length a black powder falls to the bottom, and the liquor becomes colourless. This circumstance seems to prove, that when gold is very minutely divided, it is of a blue colour, and that it only acquires its natural colour by an assemblage of a certain number of its molecules. This will explain, 1st. Why a very fine leaf of gold, pierced with small holes, appears green when placed between the eye and the light; because the blue colour of the parts which are most divided is combined with the yellow colour of those parts which are less divided. 2d. Why, when a concentrated solution of sulphate of iron is poured into a solution of gold, in sufficient quantity to reduce all the gold, the liquor is of a fine green; because the yellow colour of the particles of gold, which are united in small masses, is in some sort combined with the blue colour of those which have not yet united; 3d, and why, in proportion as the first set fall to the bottom the

liquor becomes more blue, and remains so till the whole is precipitated. Hence it is probable that the precipitate of Cassius is not entirely metallic gold, but rather a mixture of oxyd of gold, oxyd of tin, and a small quantity of metallic gold. No precipitate is thrown down from the solution of gold by mixing with it carbonate of potass, an effervescence only is produced. In about thirty hours the liquor becomes turbid, but no separation takes place; as the carbonic acid is disengaged the liquor takes a fine rich red colour. When the above mixture is boiled, there is formed a very thick magma of a light kermes colour, but this colour is not changed by boiling with an excess of carbonate, as happens with the caustic potass, which indicates that this latter produces some action upon the precipitate. After the liquor from which the red matter had been precipitated, appeared to have lost its colour, I filtered it in order to procure the precipitate by itself. Indeed, the liquor had but a very slight yellow tinge, which, together with its simple saline taste and its being devoid of any metallic taste, would induce any one to suppose that it contained no gold. A portion, however, of this liquor, into which I poured a few drops of muriatic acid, immediately acquired a deep yellow colour, and afforded a considerable quantity of metallic gold by the sulphate of iron. I postponed the analysis of this liquor till another time, in order to proceed in examining the red precipitate formed by the carbonate of potass from the solution of gold. I commenced with washing this substance in boiling water, taking care to keep each washing separate, in order to ascertain more easily when the precipitate no longer contained any thing soluble; but although I made use of a very large quantity of water in proportion to the mass of precipitate, I could not divest it of its solubility, and it appeared to me that the last washings contained nearly as much gold as the first, which made me suspect that the precipitate was slightly soluble in water, and that by continuing to wash it, I should perhaps cause the whole of it to disappear. I therefore discontinued the washing, and slowly dried the precipitate; it lost much of its bulk, which proves that it contained a large quantity of water; by drying, it took an

intense deep colour, resembling dried blood; by pulverising, it became of an orange yellow: 7,643 grammes of fine gold, precipitated in this manner, afforded only 5.414 grammes of red matter, whence it follows that 2.229 grammes of gold, or rather less than a third part, were contained in the mother water and washings employed.

Although I made use of an excess of carbonate of potass to precipitate the solution of gold, the red matter which I obtained by it did not sensibly contain any of this salt; for after desiccation it entirely dissolved in muriatic acid without producing the least effervescence, which proved that the precipitate had been deprived of the carbonate by washing, and that it did not contain any carbonic acid. But it was not the same with the muriatic acid. I was obliged to employ successively large quantities of nitric acid (as we shall see presently) to deprive that substance entirely of muriatic acid; then the nitric solution was no longer precipitated by the nitrate of silver. The presence of the muriatic acid in the first solution of the precipitate in nitric acid, made me suspect that it was in the state of muriate with excess of oxyd of gold; but the last solutions not containing any acid, it was more probable that the whole was simply an oxyd containing some particles of muriate, which had escaped the numerous washings the precipitate had undergone. But if the potass and the carbonate of this alkali precipitate, in the state of oxyd, a part of the gold dissolved in muriatic acid, why does it not precipitate the whole? How happens it that some remains in the liquor? and in what state does it exist there? This we shall inquire into by and by; let us now examine the properties of the oxyd of gold.

The oxyd of gold, prepared in the manner we have described, has a very sensible metallic styptic taste, and copiously excites an excretion of saliva, which continues a long time; bibulous paper, or any other porous combustible body, impregnated with it, burns with crackling and sparkling like powder. One decigramme of this oxyd minutely divided and agitated for some time with 60 grammes of distilled water, was not entirely dissolved; yet the filtered liquor, perfectly

clear and colourless, afforded with sulphate of iron an abundant bluish precipitate, which proved to be metallic gold. This proves there was a solution of this substance in the water; but this solution might proceed from some portions of the salt remaining among the oxyd, for want of sufficient washing. I passed the undissolved portion through several successive quantities of distilled water, and I found in all of them gold in solution, but in smaller quantity in proportion as the washings increased. Although I did not dissolve the whole of the decigramme of this oxyd, apparently because the last portions of it were not in a sufficient state of division, yet I do not doubt, from the very little which remained, that if I had gone on with the operations, the whole would have been dissolved. What appears to prove this is, that the last washings, which still afforded very evident signs of the presence of gold by the test of sulphate of iron, gave no signs whatever of the presence of muriatic acid when tested by nitrate of silver. From these experiments it results, that potass, soda, and their carbonates, precipitate gold from its solution, in the state of oxyd; or, at least, if there is any muriatic acid in the precipitate, it is in an infinitely small quantity, when the washings have been conducted with proper care. The little solubility of this oxyd, and its easy decomposition, must render its action, as an oxygenating substance, speedy and certain upon the animal economy. The red oxyd of mercury, which possesses some properties in common with the oxyd of gold, such as its solubility in water, and easy decomposition, is endowed with nearly similar medicinal virtues; and we may conclude, from analogy, that the oxyd of silver possesses the same virtues. The nitric acid does not act on the dry oxyd of gold, unless the acid is in large quantity, and in a state of concentration; it is very different with the nitric acid, which dissolves it immediately; the nitric solution of gold has a brown colour; by the addition of water a floccy precipitate takes place, similar in colour to that produced by the alkalies. The first portions of nitric acid, which were used upon the oxyd, afforded a precipitate by the nitrate of silver, after the gold had been separated by water, but the last portions gave no precipitate; this

confirms what I have said above. The affinity of the oxyd of gold for the nitric acid appears to be very weak, for by spontaneous evaporation a part of it separates in a metallic state; this is the reason why nitric acid alone will not dissolve this metal.

2. *Examination of the Liquor from which the Gold has been precipitated by the fixed Alkalies.*

I have already said that this liquor had no sensible colour, but that it became of a very deep yellow when muriatic acid was poured into it, and that it afterwards deposited an abundant precipitate of metallic gold by means of the sulphate of iron. Having evaporated this liquor by a very gentle heat, I at first obtained some crystals of muriate of potass, among which I discovered some crystals of the carbonate of potass, which had been added in excess; the liquor decanted from these salts, and again evaporated with the same precautions, was of a light yellow, and afforded a salt of the same colour, which had no regular form: some crystals of carbonate of potass, entirely colourless, were mixed with it. The coloured salt, well drained, produced no effervescence with muriatic acid, whilst those which were colourless, produced a very evident one, but their solution was not coloured. The coloured crystals, re-dissolved in water, copiously threw down metallic gold by the addition of sulphate of iron. The mother water of these crystals effervesced with muriatic acid, and afterwards precipitated metallic gold by means of the sulphate of iron.

These experiments seem to prove, that these crystals, as well as the mother water, contain muriate of gold and muriate of potass, united together in the state of a triple salt, and that the carbonate of potass exists in the state of mixture. It is therefore very probable, that if a sufficient quantity of muriate of potass was added to a solution of gold, as nearly as possible completely neutral, no precipitate would be produced from the mixture by the alkalies. To verify this opinion I made the experiment, but I obtained a precipitate by carbonate of potass, although much less abundant, and of a different colour and aspect than that obtained from a solution of pure gold.

Its colour was yellow, its form grained, and not flaky like the oxyd of gold. By examining this precipitate, I found it was composed of muriate of gold and muriate of potass, rendered less soluble by the presence of the alkali in the liquor from which it was separated. One very remarkable circumstance is, that after having precipitated a solution of gold by an excess of saturated carbonate of potass, if a quantity of acid is added to the filtered liquor, sufficient to decompose the alkaline salt, some floccules of oxyd of gold are separated; if, afterwards, the liquor is filtered, and muriatic acid is added to it, it again affords a precipitate by boiling, but the latter is a triple salt, similar to what I have spoken of. I believe that the precipitate which takes place from the solution of gold by means of the acid, is owing to a small quantity of this metal held in solution by the carbonate of potass. This effect is still more remarkable with caustic potass.

From what has been said, it is evident, that in order to precipitate the greatest possible quantity of oxyd of gold from its muriatic solution by means of the alkalies, it must be made in such a way that no superfluous acid remains in the solution, so that less of the triple salt may be formed, upon which the alkalies have no action. The oxyd is to be obtained by well managed evaporation to dryness. It follows also, from what has been said, that the liquor from which the gold has been precipitated by the alkalies should not be thrown away, because they still contain a great quantity of this metal. Artists and manufacturers often throw away many things which might be useful, for want of properly knowing their value. For many ages, jewellers have been accustomed to throw away the water used in certain of their operations, by which has been lost, in Paris alone, an annual sum of 300,000 francs. But since I have informed them that this water contains gold, and have pointed out to them the method of separating it, they preserve it with great care. I am, at present, occupied in examining the nature of gold, precipitated from its solution by metallic tin, which is also employed in medicine, and as soon as I have finished my inquiry I will communicate it to the Society.

On some Preparations of Gold lately employed medicinally: By A. S. Duportal, M. D. &c. and Th. Pelletier, Apothecary.

(Ann. de Chim. Vol. LXXVIII. p. 38.)

After having enjoyed some reputation as a medicine, gold had ceased to be administered to the patient, and taken an opposite direction. Lately, however, Dr. Chrestien, of Montpellier, a physician of great reputation and successful practice, has revived its use. He has employed it in syphilitic and lymphatic affections, and chiefly in Clark's mode. The preparations he uses are metallic gold in a state of minute division, oxyde of gold precipitated by potash, the oxyde precipitated by tin, and the triple muriate of gold and soda. These he considers as superior to mercurials. Some experiments by Mr. Vauquelin, on the preparations of gold thus introduced into notice, have already been given, and we shall now present our readers with some remarks on the subject by the gentleman above mentioned, one of whom enjoyed the advantage of a personal acquaintance with Dr. Chrestien, at Montpellier.

The first preparation of gold employed by this physician was the metal in a state of minute division. To obtain this, he formed an amalgam, by triturating leaf gold with seven times its weight of mercury in a marble mortar with a glass pestle, and then expelling the mercury by means of a powerful lens in the height of summer, or dissolving it out by pure nitric acid.

The present writers recommend rather to precipitate a solution of muriate of gold by a solution of sulphate of iron at a minimum, filtering, and washing the precipitate with water, acidulated by muriatic acid, in order to dissolve out the oxyde of iron mingled with the precipitated gold. When the gold is thoroughly dried, it is in the state of a deep brown powder, though in the metallic state; all metals losing their brilliancy by being minutely divided.

To prepare the oxyde of gold precipitated by potash, they

direct one part of nitric acid at 40° [sp. gr. 1.396] to be mixed with four of muriatic acid at 12° [1.089]; and cupelled gold to be heated with eight times its weight of this menstruum in a matrass with a long, narrow neck, till it boils gently. When no more gold will dissolve at this temperature, the solution is to be poured off, and evaporated to dryness in another matrass by a gentle fire. The residuum of this evaporation is to be dissolved in distilled water, and filtered.

The filtered solution is to be treated with potash, to separate from it the oxyde of gold; but in this there are great difficulties, and the whole cannot be thrown down, without part of it being reduced to the metallic state. The cause of this is not known; but the authors ascribe it, 1. to the formation of a soluble triple muriate, which takes place when the potash is poured into the solution of muriate of gold: 2. to the excess of acid always present in this muriate: 3. to the more or less caustic state of the alkali employed: 4. to the greater or less quantity of this substance added to the muriate of gold.

When a solution of caustic potash is poured into a saturated solution of gold by muriatic acid, a yellow precipitate is formed,* which, when collected on a filter, does not amount to more than 40 grs. of oxyde from 72 grs. of the metal in the solution. The remaining liquid is of a very deep colour, and contains a triple muriate of gold and potash. A fresh quantity of the caustic alkali will cause no farther precipitation, unless the liquid be kept several hours in a gentle heat: but in this case, a new precipitate will fall down, extremely bulky, and of a deeper colour than the former, and apparently at a different degree of oxydation. Several weeks are necessary to complete the precipitation; and even at last a certain portion of gold will remain, which must be thrown down by a slip of tin, if we would lose nothing.

If the solution of gold be very acid, there will be scarcely any perceptible precipitation; and this might be expected, as the alkali finds a sufficient quantity of free acid, to form muriate of potash enough for the production of the triple salt. Indeed, no precipitation at all ought to take place, when

* It is necessary to employ heat.

the solution is extremely acid; but here, experience does not entirely agree with theory, for a very small quantity of oxyde of gold is always produced.

The causticity of the potash is of great importance: for if the neutral carbonate be employed, no change will take place without the assistance of heat. This, expelling a considerable portion of carbonic acid gas, will alter the colour of the solution from yellow to greenish. If it be then filtered, traces of the purple oxyde of gold will be found; and it will effervesce with acids, having its fine golden colour restored. A few drops added to a glass of water will not colour it; but, if the water be acidulated, the colour will instantly appear. The same solution yields by evaporation white, transparent, alkaline crystals, interspersed with black spots. These crystals dissolve in water without colouring it; and on filtering the solution it passes transparent, leaving a little gold on the filter. The addition of any acid, however, causes its colour to re-appear.

What is the chemical nature of the crystals obtained? Though this was not minutely ascertained for want of time, it appears certain, that they were composed of carbonic and muriatic acid, potash, and gold; but whether constituting a quadruple salt, a trisule, or two salts, one the triple muriate of gold and potash, the other subcarbonate of potash, the authors cannot say; nor could they form any judgment from the figure of the salt.

It may not be amiss to observe, that, in an impure nitro-muriatic solution of gold, saturated carbonate of potash will precipitate the copper, without throwing down the gold, if no heat be employed.

As too large a quantity of alkali, added to a solution of muriate of gold, will cause a portion of the precipitated oxyde to be redissolved, it is necessary to add the alkali cautiously, boil the solution at every addition of alkali, and separate the precipitate by filtration, whenever a sensible quantity appears.

The precipitate must be washed but slightly, it being partly soluble in water, as Mr. Vauquelin remarked; and it must be dried in the shade and in a cool place, otherwise it will be a mixture of oxyde and metallic gold.

It may be known whether the oxyde be pure, by treating it

with muriatic acid, which in this case will dissolve it completely; but, if it be mixed with metallic gold, part will remain undissolved.

The oxyde of gold precipitated by tin, which Dr. Chrestien also recommends, may be obtained either with metallic tin, or with its solution.

For the first, slips of tin, well cleaned, are to be put into an aqueous solution of muriate of gold. These will soon be covered with a layer of pulverulent matter, of a colour more or less deep; will be renewed several times, after being removed. When this ceases to be reproduced, the liquor is to be filtered, and the precipitate washed in distilled water, dried in the shade, and powdered. This is the purple powder of Cassius.

If the oxyde of gold be precipitated by a solution of tin, it is of importance that the tin be in a fixed state of oxydation, otherwise the product will vary both in its nature and quantity. An uniform solution may always be obtained by dissolving slips of tin in muriatic acid at 12° [1·089,] filtering, evaporating to the point of crystallization, dissolving the crystals in pure water, and filtering again. Part of this solution should immediately be mixed with the liquid muriate of gold; and the union of the two salts produces a precipitate, which should be increased by adding fresh quantities of the muriate of tin, as long as any thing is thrown down; after which the precipitate is to be washed, dried and powdered. The quantity obtained, appears to depend on the quantity of water added to the solutions of gold and tin. The more they are diluted, the more the tin is thrown down. One drachm of gold, the solution of which was mixed with ten quarts of water, mixed with a very dilute solution of tin, yielded five drachms and an half of a very fine purple precipitate.

It does not appear to be a matter of indifference which of these two precipitations is used. When metallic tin is employed, the precipitate is brown; and the gold, if not in the metallic state, is nearly approaching it. On the contrary, the precipitate produced by muriate of tin at a minimum of oxydation, is of a deep purple colour; and, though it contains a little metallic gold, has much more of the oxydes of gold and of tin; whence,

it is obvious, the efficacy of the two preparations cannot be the same.

The muriate of gold is so greedy of moisture, that it soon deliquesces, whence it can be employed only in the liquid state; and, as its great causticity renders even this difficult, Dr. Chrestien thought of uniting it with the muriate of soda; thus producing a triple muriate, less deliquescent, and less caustic.

For this purpose, a solution of muriate of gold in distilled water, obtained as described above, is to be employed; and, it is particularly important, that this salt has not an access of acid. Into this solution is to be poured an aqueous solution of pure decrepitated muriate of soda, so as to combine an equal quantity of the dry salt with the gold dissolved. The two solutions being mixed, the fluid is to be evaporated by a gentle heat in a glass capsule, taking care to stir it well toward the end of the process. When the mass is sufficiently dry, it is to be powdered while hot in a glass or stone mortar; and the powder is to be kept from moisture, which it attracts in a slight degree.

In this preparation the management of the fire is of great importance: for, if the desiccation of the salt be not carried far enough, it will contain too much acid; and if it be urged too far, it will be in part decomposed, and mixed with a little gold.

The enlightened physician, who extols the use of these preparations, employs them externally and internally; but recommends them to be mixed with other substances, lest their action should be too violent, if given alone. Thus, for a long time he did not give the triple muriate of gold and soda, otherwise than mixed with twice its weight of a powder composed of starch, charcoal, and the lake used by painters. As the alumine of the last, however, might take up a portion of the muriatic acid, and the charcoal might revive the gold, Dr. Chrestien changed this powder for liquorice root, orris root, &c.

Beside this, he joined the compounds of gold with extracts of the attenuant plants: sugar, with which he forms lozenges; syrups, in which he dissolves them, &c. He mixes them also with Galen's cerate, when he wishes to promote suppuration; and with lard, when he would employ them in frictions on the soles of the feet, after the method of Cyrillo.

The writers of the present article, do not approve the combination of the preparations of gold with these different substances, as all vegetable and animal substances, dissolved or not, revive gold from its acid solution. They recommend them to be given alone, or dissolved in distilled water: or, at least, if they must be mixed, to mix them as short a time as possible before they are used.

In this way Dr. Duportal asserts, that he has found good effects from them in syphilitic complaints. In a chancre corroding one of the corpora cavernosa he found them of real advantage: but the most striking instance of their efficacy was in cancerous ulcer, that had destroyed the upper lip, attacked the soft parts of the nose and left cheek, destroyed the square bones [os carrés,] and rendered the maxillary bone carious. Being called to a consultation with Dr. Payen on this very serious case, in which all the common methods had been tried in vain, Dr. Duportal hoped to oppose the progress of the disease by the use of Dr. Chrestien's medicine, assisted by attenuant extracts. In consequence, the patient was directed daily to rub into the gums the triple muriate of gold and soda; and to take oxyde of gold precipitated by potash, with pills composed of the extracts of white henbane, hemlock, and sharp-pointed toad-flax. The ulcer was daily washed with Sydenham's liquid laudanum, sprinkled over with powder of red bark and camphor, and dressed with a digestive, in which oxyde of gold was mixed. Under this treatment, which has been continued two months, gradually increasing the dose of the substances, the ulcer has assumed a promising appearance; the carious points have disappeared; the suppuration furnishes laudable pus in moderate quantity; the patient daily improves in flesh and strength; and there is every reason to believe, that this evident melioration will continue. That it cannot be ascribed to the means employed in conjunction with the preparations of gold is evident, for they had been used previous to these, without effect.

Observation on the Physiognomy of some Chronic Diseases.

By Dr. Dumas, of Montpellier.

[From the London Medical and Physical Journal, for January, 1812.]

Among the novelties of this period, we cannot leave unnoticed the "*Observations sur la physiognomie propre a quelques maladies chroniques*," by Dumas, of Montpellier. The speculative disposition of this physician has always given to his productions an interest of a peculiar cast; but, though constantly ingenious, they have, generally, a coloring from imagination not perfectly according with a cautious investigation of facts, and a philosophic inquiry for truth. This we conceived to be remarkably conspicuous in his essay on the property which the different organs of the human frame have of being transformed into each other. In the instance before us we are, however, willing to believe that, as the conclusions are deduced more immediately from palpable appearances, and as the foundation of the principle lies more on the surface, and the results being less dependant on the feelings and descriptions of the patient, it may approach to that decisive character which *should* mark the whole of pathology.

According to M. Dumas, the physiognomic marks of phthisis pulmonalis are, a shining brightness of the eye, with a prominence and red tinge of the eye-ball, a lengthening of the line between the orbits, a hollowness of the temples, and a sinking of the cheeks. A wan and waxen hue of the countenance, a languor in the eyes, a tarnished whiteness of the cornea, with a bloated distention of the skin, are the principal traits of the hydropic physiognomy, which is strongly marked in the pictures of Gerard Dow.

In hydrocephalus, the eye is thrust forward from the orbit, and half of it is hid under the eye-lid, giving a decided character to the face of those laboring under this disease. The visage seems enlarged, dilated, and altered from its natural shape, in venereal affections: a livid hue, faded eyes, discolored and hardened skin, give an expression of languor and dejection to the syphilitic physiognomy.

The scrophulous diathesis is marked by an enlarged head, particularly about the occiput; by prominent cheek bones; by a full and bloated visage; by a projecting squareness of the lower jaw, and an extended outline of the chin. Large lips, thickened eye-lids, wild, melancholy, and sometimes haggard eyes, the cornea of which have a bluish transparency, and their pupils dilated, fill up, as M. Dumas says, the strumous physiognomy.

To the arthritic physiognomy, a character, fixed and determined by certain rules, cannot be assigned: but it is considered by this ingenious physiologist, to have the greatest affinity with that expression of eye indicating a dull internal pain, and an air of languor and debility, which appears in the female countenance about the period of menstruation. The characteristic signs of some chronic complaints are asserted to be marked with such precision, as to determine with great exactness the nature of the disease. A chronic diarrhœa, a long-continued dysentery, obstructions of the liver and abdominal viscera, scirrhus and ulcer of the uterus, cancer, and general cachexia, are examples.

There is a permanent character arising out of the anatomical state of the parts, which determine the particular physiognomy of nervous diseases, and which is best marked when the specific cause arises from malformation. M. Dumas speaks of the following as permanent in many morbid states, but which cannot, however, be said, all of them, to arise from organic defects. An effect resulting from a combination of pallid, dark, and yellowish tints, proper to the melancholic temperament, give to the physiognomy a character of sadness and suffering, finely expressed in the Antinous of the Capitol.

Lavater has given the portraits of two hypochondriacs, whose appearance was so changed by their disease, that they were hardly recognised as the same persons. Their eyes were sunken and haggard, and their whole physiognomy expressing that painful constraint which oppresses the vital functions in hypochondriasis. Mania presents a different expression according to the species of the disease: but it is always characterised by a combination of determinate traits. The researches

of physicians have decided that there are specific marks characterising the different kinds of mental alienation.

The general character of the maniacal physiognomy consists in disordered and irregular lines, having an analogy with incoherence of ideas. Idiotism, however, shews itself rather by a regularity of visage, but cold, motionless, and inanimate; the face generally being of a proportion too large for the cranium. In one species of intellectual imbecillity, that arising from hydrocephalus, and where the faculties of the mind seem totally obliterated, idiotism is connected with an enlarged cranium, evidently made so at the expence of the face.*

The physiognomic character of epileptics more particularly drew the attention of Dumas. An examination of many persons suffering under this disease, enabled him, from actual admeasurements, to point out the peculiarities in the shape of the head which decide the epileptic physiognomy. A disposition in the muscles of the face to convulsive motions; lowering eye-brows, palpebræ nearly closed; projecting, fixed, shining eyes, with their pupils turned in opposite directions, give the obvious marks of this physiognomy. But, above all, he says, a peculir facial angle distinctly impresses a character on the general physiognomy of the constitutional epileptic, or those whose disease arises from some organic defect in the brain. This peculiarity is a lowered proportion of the facial angle, which is always observed to be under 80 degrees. It is remarked, that there is a singular affinity between the facial angle of the greater number of epileptics and that of the negro, each receding from 80, and approaching to 70, degrees.

In 1804 and 1805, M. Dumas measured the facial angle of many epileptics in the hospital at Toulouse: four among these had it from 70° to 71°; three from 71° to 72°; and in one it was found below 70°. It is a practical fact of importance, and which we hope will be confirmed by additional observation, that, in those cases of epilepsy which are curable, the facial angle always approaches to 80°; and in those which arise from

* The brain in hydrocephalus will be in a state of compression, notwithstanding the increased volume of the cranium, from the accumulation of fluid, as much as if the bony structure had too small a dimension.

organic defect in the brain, and are consequently incurable, the facial angle is lowered to 72°; and even, in some instances, below 70°.

We are not convinced that the principle of M. Dumas may not be applied to many acute diseases; or that diseases, generally, do not give a distinct character of countenance, or, as this physician expresses it, a physiognomy peculiar to each. If the violence and termination of morbid affections are, from this source, occasionally obvious to superficial observers, what may not be expected when persons of talent, capable of discriminating and selecting, apply earnestly to the subject? The pencil will afford an auxiliary of immense importance; and, as a faithful and chracteristic portrait, will, probably, depend on a few lines happily caught; when these lines are well understood, much of the difficulty will be vanquished. No branch of medical science seems so perfectly untouched as this; nor so likely, when executed with sufficient precision, to bring the reward of REPUTATION.

SELECTED REVIEWS.

Clinique Chirurgicale, ou Mémoires et Observations de Chirurgie Clinique, et sur d'autres Objets relatifs à l'Art de Guerir. Par PH. J. PELLETAN, Chirurgien consultant de L. L. M. M. I. I. et R. R. &c. Chirurgien en chef de l'Hotel Dieu, &c. &c. &c. 3 Tomes, 8vo. Paris, 1810.

[From the London Medical Review, for April, 1812.]

THERE are but few surgeons who can affix to their names so many adjuncts of titles and places as Monseigneur Pelletan. The title page is adorned with about twenty, and the list concludes with an intimation of his being a member of other learned societies, "*nationales et etrangeres.*" He informs us at the end of a lively preface, that they are given as proving the sources from which his experience was derived. "But the titles the dearest to my heart, are those which I owe to the munificence of the hero who governs us." After a few more flourishes about his ardent admiration of the glory and goodness of this greatest of heroes, he finishes with an exclamatory wish that his happy posterity may equal in number the stars of the firmament, &c.!!

He appeared so full of his patron's generosity, so overcome with the favours of being appointed surgeon extraordinary to their imperial and royal majesties, a chevalier, and a member of the legion of honour, that we felt alarmed, lest he should burst out into some rapturous apostrophe to his majesty, whilst discoursing in his first memoir on the ticklish theme of cutting throats. We were happy to find however, that when engaged in illustrating a point in surgery, he became a very surgeon; and never turned from the path of his own experience, but to examine for a moment the practice of others on similar occasions. He is a little smart sometimes in his criticisms, but they appear impartial; they are on acts and not on the actors, and they always tend to throw light on the subject in hand.

M. Pelletan is now growing old in the exercise of his art. He appears to have made some use of the very ample opportunities which his reputation have placed within his reach. The fruits of his experience are now before us. He publishes them to discharge a duty which he thinks he owes to his successors. It is a duty which he owes in common with every medical man, who, like him, has enjoyed the advantage of great opportunities, has talents enough to turn them to good account, learning sufficient to know what is really new to his profession, and discretion to leave unsaid what has been already well told by others.

The author communicates his observations in the form of memoirs, taking for his models what are indeed chefs d'œuvre of the kind, the memoirs of the royal academy of surgery. His subjects are the most important and interesting in surgery. He professes not to give complete treatises on any topics, but all the new and useful matter that he could draw from his own sources. The whole work is written with clearness and spirit, if we except a few instances of a little garrulity, which may well be pardoned in a Frenchman, who tells us he has held his tongue for forty years. It bears the character of close and original observation, and forms certainly the most valuable present in surgery which we have received from our neighbours, since the publication of the surgical works of Desault. From this consideration, as well as from the comparative rarity of foreign books, we shall best perhaps consult the interest of our readers by going briefly through the whole of the contents of these volumes.

The first memoir is on bronchotomy, an operation rarely required and still less frequently performed. It is not often that the patient, or the patient's friends can be brought to consent to the performance of an operation, which to common minds has in it something peculiarly dreadful. Nothing probably but great firmness on the part of the surgeon in pressing it will ever prevail. In order to give him that steady confidence in the resources of his art in the hour of difficulty and distress, nothing will contribute so effectually as a knowledge of cases in which the operation has been performed with suc-

cess by surgeons of high character for judgment and experience.*

It is most urgently called for in the case of foreign bodies in the windpipe. It may also become necessary in other cases for the purpose of giving a passage to air. It is performed by making a small transverse cut between two of the rings of the trachea; or between the cartilages of the larynx; or by making a longitudinal incision through either of these parts. The author prefers the longitudinal division in every case. To give passage to air, he makes it through the trachea; to remove foreign bodies, through the trachea or larynx, according to the situation in which they will most probably be found.

M. Pelletan has given in detail several cases in which he has himself performed the operation with various success; six in which he made an opening for the purpose of disengaging foreign bodies which no effort of the patient could reject. It is we believe very rarely that any body which has once dropped into the trachea, has been thrown up again through the irritated and constricted glottis. It is most commonly in these violent convulsive coughs that the patient suddenly expires. On the other hand we know from experiments which have been made on brutes, as well as from the cases in which this operation has been performed on the human subject, that the foreign body, if loose, is forced almost instantly through the wound, if large enough to admit of its passage. If not, no search is necessary, as it speedily presents at the opening, and may be seized without difficulty.

In the first case, in which a bean fell into the trachea of a child, the author performed the operation on the fourth day, but it was too late to save its life; the bean was thrown out with violence, and the patient for a time relieved. In a similar case he operated on the third day; the bean was forced out at once, and the child recovered. In a third instance in which

* For some excellent observations on this subject, see the 1st, 4th, and 5th volumes of the Memoirs of the Royal Academy of Surgery; and also a memoir in the second volume of the works of Desault, who, in some cases, to allow of respiration, passed an elastic gum tube into the trachea from the nose, instead of making an opening into the trachea.

a pebble was lodged in the windpipe, the case had been treated for twenty days as one of simple inflammation of the lungs. The opening was made, and by laying the child flat, the stone was presently thrown out. He was at once relieved, but never recovered the effects of inflammation, and died phthisical at the end of eight months.

In the other three cases a foreign body was impacted in the larynx, and it became necessary to use further means in order to disengage it. In a child our author made a long opening into the trachea, but nothing presented itself. The symptoms came on whilst the child was biting the head of a fish. A stilet wrapped round with oiled linen was then passed up and down the larynx several times without causing much irritation, and the child continued to breathe freely through the tracheal aperture. The body was presently brought to the opening, and extracted. It proved to be part of the jaw of the fish with many sharp teeth in it. The child soon recovered. A young man was supposed to have had a button mould in some part of the windpipe for six weeks; and pointed to the larynx as the seat of his uneasy feelings. From an opening in the trachea, the button was felt by the finger, but could not be withdrawn. The cricoid cartilage was divided, and the button was easily taken out of the left ventricle of the larynx. He was cured. A case very similar is related in Desault, in which a cherry-stone was lodged in the same place. The patient would not consent to an operation, and died after two years, "*d'une phthisie de larynx.*" In the last case a portion of tendon of veal was supposed to be fixed at the top of the larynx. It could not be disengaged by the finger, or by an instrument passed in from the mouth. The author divided the thyroid cartilage, passed up his little finger, and displaced it without knowing that he had done so. The patient was at once relieved.

If the substance be small and smooth, it sometimes remains loose in the trachea for a considerable time, producing only occasional fits of suffocation with intervals of ease. But the case can only be relieved by an operation; and to temporise, is only to increase daily the probable chance of fatal conse-

quences. If the obstruction is of long continuance, or if it exist to a great degree, we have not only inflammation of the trachea, but great congestion about the head, which after the removal of the foreign body still requires active treatment for its removal. In the first case, where the patient died, the vessels of the brain were much loaded.

The author relates some other cases in which he performed the operation to give a passage to air. In one the patient was choked by a small polypus attached to the side of the glottis; and he was called too late to recover him. In another the woman was dying, suffocated by a chronic thickening of the membrane of the larynx. The operation was of no use. In a third, a child with enlarged tonsils of some years duration was attacked by inflammation of the throat, and respiration was so much impeded as to reduce him to the last extremity. He was relieved for a short time by the operation, but at the time of its performance was comatose with a faltering pulse, so as to remove all expectation of his recovery. In similar cases our author advises that the operation should be performed at an early period of the attack.

The only case of croup in which he thinks the operation could be of service, is where the disease is confined to the larynx; a rare case we must suppose, and one of which the diagnosis must be difficult. In every other case M. Pelletan agrees with the best writers on this subject, that the operation would be not only useless but injurious.

We have seen the trachea opened in order to inflate the lungs in a case of suspended animation; and we believe that the operation is still occasionally performed for this purpose. It is however worse than useless, as a curved tube may be passed into the trachea from the mouth or nose. Pelletan passed it from the mouth; and it is the only case in which he thinks tubes can be used with advantage. He rather ridicules the plan of passing a tube through the nostril either into the trachea, or œsophagus, which it is well known was particularly recommended by Desault. Where the finger can be passed far enough back to touch the opening of the larynx, as

in infants, it may certainly be passed into the trachea with most ease from the mouth.

Our author deprecates the practice of passing instruments into the œsophagus, when the foreign body is in the larynx or trachea. In some cases, especially when the body is loose in the trachea, the symptoms are so strongly exhibited as to leave no room for doubt. But it is no less true that the urgent symptoms of suffocation which sometimes attend the impaction of foreign bodies in the gullet, cannot in every case or at the instant be accurately distinguished from the choking caused by a body fixed in the larynx. Every surgeon therefore in a doubtful case should endeavour to examine the pharynx, or to pass an instrument down the œsophagus. The case has happened where a surgeon made an opening into the trachea, when the cause lay in the œsophagus. The patient died unrelieved. In such a case Desault would have passed an elastic gum tube into the trachea, to allow of respiration until the œsophagus was examined, or the body removed. Again, there are other cases on record of hard bodies lodged in the pharynx or œsophagus, in which an opening made into the trachea by the surgeon has saved the patient's life.

Whatever be the occasion for which bronchotomy is performed, one point would appear determined by the cases before us, which is, the safety of making a longitudinal opening into the trachea. There is no instance recorded amongst them of bleeding of consequence enough to stop the operation for any time, or to interfere seriously with the relief it afforded. All that appeared necessary if the bleeding continued after the aperture was made, was to leave the wound open for a time, to allow the free expulsion of the blood from the trachea by coughing. Yet M. Pelletan divided several of the rings of the trachea; he must have cut through some considerable veins; and in the case of the young man with the button in the larynx, he must have cut through the vascular thyroid gland at the narrow part which unites the lateral portions. Desault preferred opening the larynx to the trachea, on account of the greater facility with which it might be done, and more particularly because there was no risk of dangerous hæmorrhage. In one

case, of a child who had a bean in the trachea, the operation was deferred for some time, from a fear that the child would be choked by the blood which flowed freely from the first incision. Before however the blood was stopped, the child died by suffocation from the bean. Pelletan here has gone beyond this great master. His judgment and his boldness have encouraged us to prodeed at once to opening the trachea where the danger is pressing. If the case is not urgent it will certainly be better to restrain the bleeding before the incision is made into the trachea. The loss of blood is probably in itself a benefit, or it might in some measure be avoided by using the handle of the knife chiefly, after freely dividing the skin.

In children, in whom the trachea, though exposed, is more than proportionally small, and not easily fixed, and the throat often fat, if the surgeon is wanting either in coolness or steadiness, he may fail of his object, or with the point of his knife he may endanger many important vessels. However, granting that no danger is to be apprehended from bleeding, the operation here recommended is much to be preferred to the transverse opening, in the case of foreign bodies in the trachea. Our author prefers it also when the section is made merely for the purpose of giving a passage to air. It is not so liable to be plugged up with mucus; it dispenses with the use of a canula or tube of any kind; and the wound heals more speedily. It may be added also that a longitudinal opening into the trachea excites less irritation, and does less injury to the voice than any opening into the larynx. The presence of a canula excites violent and repeated efforts to expel it by coughing, so that it is often in vain that the surgeon endeavours to keep it in its place. He exemplifies the comparative quickness of the healing of a longitudinal wound by the length of time necessary for the cure of transverse wounds in persons who have cut their throats. And the memoir concludes with several of the latter cases, some of them interesting, but not much in point with respect to the question under discussion. Without having recourse to such elucidations, he would have found no difficulty in persuading us of this fact; or that a large transverse wound

through the front of the neck and the trachea is always followed by some impediment to the free motions of the larynx.

The second memoir is on the subject of internal aneurism. Where it is possible to apply a ligature on an artery between the seat of the aneurism and the heart, the case is generally within the reach of surgery. From the judicious boldness of surgeons in this country, the practice has been of late carried to a much greater extent than was supposed possible by theorists, and far beyond what the boldest operator even but a very few years since would have dared to venture. We are not prepared to say that arteries of larger size may not be tied, and even nearer to the heart than has yet been attempted. But there are many cases which the knife and the ligature cannot reach; and which are generally considered as irremediable, either from their situation, which precludes any operation, or from the vital importance of the artery itself. These are left to advance to a fatal termination; or if any plan of cure is proposed, so little expectation is there of any successful issue, that it is carried on with hesitation and soon altogether abandoned.

It is well known that Valsalva advised in such cases a mode of treatment by bleeding, perfect rest, and a starving diet, by which he is said to have succeeded in alleviating distress, and in retarding the increase of the aneurism in some instances, and to have caused all symptoms of the disease to disappear in others. The same method has been now and then put in practice by others: but it has been done with faint hopes, and failing resolutions, and more with a view to protract a miserable life than ultimately to remove the disease. Valsalva's cases are often quoted, but it is more to doubt of their truth, than to adduce them as examples to be followed. Mr. Allan Burns evidently gives no credit to the accounts, and supposes Valsalva to have deceived himself. He asserts, that in no case of internal aneurism is it possible to cure the disease. He gives however no facts to prove the inefficacy of the plan, nor does he appear ever to have put it in practice.

From the obscurity of the symptoms at the commencement it is often difficult to determine the existence of internal aneurism at the time it is most susceptible of cure. It is a case

therefore which particularly demands close attention and accurate knowledge on our part. It further requires from us for its cure, a constancy in our purpose, and from the patient a confidence in our judgment, to induce him to submit with patience to dicipline so severe. The intent of the treatment is to reduce the patient gradually to as extreme a degree of weakness as is possible without imminently endangering life. It is done by absolute rest, a rigorous diet, and bleeding; to these means M. Pelletan adds the external application of ice, or cold and astringent washes, &c. He has here detailed many cases from his own practice, of partial or complete success, which cannot be too generally known, as they may be the means of creating in some, and of confirming in others a good opinion of the only method of treatment which has been found at all efficacious in a dreadful and not unfrequent organic disease.

Of the cases here recorded, some appear to have been cured; in others the treatment had marked good effects. In extreme cases, at best it afforded but partial and temporary relief. We can notice but a few of these cases, which are in every respect highly interesting. In one, a robust man, an aneurism at the root of the aorta with a pulsating tumour of the size of an egg projecting between the ribs, (the edges of which were already partly absorbed,) was reduced so as to recede within the ribs in the course of eight days. At the end of this time the patient refused to submit any longer. The tumour did not appear again for nearly a year, although he returned to very drunken and irregular habits. He died in about two years and a half, with the tumour again appearing, and much increased in volume. The aneurismal sac communicated with the aorta by a smooth and round opening, opposite to one of the sigmoid valves. There can be no doubt of the efficacy of the treatment in this case; and it is highly probable that his health and his life might have been long preserved but for his own indiscretion. In a case somewhat similar, but not so far advanced, the patient appears to have been cured. There was a swelling on the right side of the breast, about six inches in circumference, with a very strong beating. The pulsation was accompanied by a pain which stretched towards the scapula, and the occiput. It was

evident that the disease was an aneurism of the great arch of the aorta. The patient was a crier of a strong frame, who was accustomed to drink freely. In the four first days he was bled eight times, drawing three dishes "palettes" in the morning and two in the evening. On the fifth, the pains and the beating were much lessened, but the pulse was still full. He was again bled once. The pulse was in a favourable state as to strength till the seventh day, when it again rose, and the man was twice bled. During this time the patient was kept to a most rigorous diet. A cold poultice of linseed and vinegar was placed on the tumour, and renewed when it became warm. At the end of eight days the good effects of this plan were very evident; the pain and the pulsation were gone. The patient, though weak, was in health, and tranquil. He was now allowed more food by degrees. At the end of four weeks from the commencement of the treatment he left the Hotel Dieu well. He afterwards led a sober life, became fatter than before, without any vestige of disease, except a slight and deep pulsation at the part in which the aorta may always be felt beating in its natural state. He died two or three years after of another complaint. His death was not known, and the body was not examined.

We have room only to notice one more case of a large aneurism of the axillary artery. The author considered an operation out of the question: and certainly, in some advanced cases, the difficulties of tying the subclavian artery, are almost insurmountable. We have seen in such a case a natural cure effected, when nothing was expected but the death of the patient. But in the present instance there can be no doubt but that the disease was overcome by the active means employed. On the thirteenth day the patient was reduced to a degree of weakness which much alarmed many of the observers. From that time all pulsation in the tumour ceased. The contents were gradually absorbed; and the patient returned to his former laborious life, with his arm as strong as ever.

The next memoir on external aneurisms we shall examine at the same time with another on the same subject in a future part of the work. It is followed by some observations on

tumours remarkable either from their situation or their nature. The object is to encourage us to operate in some cases, and to warn us against making the attempt in others, where the evils of an operation far exceed those of the tumour.

Six of the cases are of tumours in different parts of the pelvis, which were removed by operations. Some of them were moveable, and loosely attached; and were easily removed by dividing the vagina which was stretched over them. In one case the tumour was of a cartilaginous nature, and had its origin from the descending ramus of the pubis. In a case of encysted tumour seated high in the pelvis, Mr. P. made a large opening into the sac from the vagina. The sac did not fill again, and the patient speedily recovered. Some of these tumours had occasioned considerable inconvenience, and had injured the health of the patients from the irritation they excited. In all, the operation was easily executed, and the cure soon accomplished. We have reason to believe that tumours in the pelvis are not of unfrequent occurrence, and that they have been allowed to remain in many cases in which they might have been removed with facility. Mr. Park mentions five cases which came to his own knowledge, of tumours in the pelvis obstructing labour; and one case in which a tumour occasioned much distress and danger from its locality, when the uterus was not impregnated.

There are several cases given of loose fatty tumours of large size which were easily removed from different parts of the body. Indeed so slight is their attachment in parts where the cellular membrane is abundant, and so small are the vessels which enter them, that very large tumours of this nature may be removed with perfect safety from the neighbourhood of large vessels, or other important parts. The author relates one case of a removal of a fatty tumour which extended from the larynx to the spine of the scapula, passing under the sterno mastoideus muscle. We have seen tumours of a similar nature removed from the front of the neck with surprising facility, which left exposed, and dissected as it were all the deep seated parts lying betwixt the larynx and the jaw. These tumours are so loose, that when the skin is turned back, they may be

drawn out, and the connecting cellular membrane divided on them without the least risk of cutting any part of consequence. The only danger to be apprehended in the removal of such tumours, wherever they are seated, arises from the extent of surface exposed, and the want of power in the patient to heal the wound, after the shock of such an operation. M. Pelletan gives one case of this kind, in which a tumour weighing twenty two pounds was removed from the side of the chest. The operation was long only from the extent of the surface to be dissected. But the patient who was sixty years of age, never rallied, and died on the seventh day.

There are no other cases of much interest, excepting one with an account of which we shall conclude the tumours. It is a case of a bronchocele removed by the knife. Of the three cases mentioned by Gooch, two died from bleeding, in one of whom the operation was left unfinished; and the life of the third was only saved by constant pressure with the hand for eight days. From the older surgeons we have many similar histories. We have no fear in the present day that the patient will die of hæmorrhage. The arteries may always be secured. But the length and pain of the operation in cautious hands, and the deep disturbance of so many important parts, are more than most patients can bear; and the event at best is more doubtful than the occasion warrants. We cannot now enter on the propriety of removing the thyroid gland when it is the seat of a disease in itself neccessarily fatal: we are considering only the case of bronchocele; and we know not that in such it is ever justifiable. If the tumour from its size should seriously impede the functions of neighbouring parts, it will be from the same cause almost impossible to remove it with ultimate safety to the patient. We should not have said so much, but that this is the age of enterprise in surgical operations. We know that the gland has been removed with success,* and we want not experiments on brutes to prove its possibility. If any operation is called for, we should much prefer exposing and tying the

* Vogel, Theden, Desault.

arteries which are enlarged, to dissecting out the enormous tumour.

The case here related terminated fatally. It is a striking contrast to the case of fatty tumour above noticed. There was no bleeding of consequence. The arteries were secured as they were successively exposed during the operation which lasted an hour and a half. But the patient was struck down by the shock of so long and painful a dissection, and died in thirty five hours. The tumour weighed two pounds six ounces. The author adds that he shall always reproach himself for having assisted in an operation which so justly deserves the name of cruel.

The memoirs on external aneurisms bear the same character as those we have already noticed. They contain valuable cases narrated with a particularity which is by no means irksome. The author is sometimes a little prolix in detailing his opinions, which do not appear to us to be always borne out by the cases on which we are to suppose they are founded. But the histories of the diseases are in general given with spirit, and with a familiarity of expression which at once convinces us of their fidelity. In the first of the memoirs before us, the reader will find many cases possessing much interest, and well deserving of being recorded. There are others which may, perhaps, appear somewhat "stale, flat, and unprofitable" to an English reader, who contemplates the rapid advance which within a few years has been made in his own country, in this important branch of surgical practice. Certainly the perusal of the memoirs on external aneurisms has tended strongly to confirm in us an impression of the comparative pre-eminence of our knowledge and our practice on this subject.

In cases of popliteal aneurism, M. Pelletan still prefers the operation in the ham, where there is reason to apprehend that the aneurismal deposit will not finally be absorbed. When it is probable that it will give rise to sloughing or ill-conditioned abscesses, he thinks it far better to lay open the whole of the tumour, and wash out its contents, filling the cavity with lint. Hunter's operation he prefers, when, from the nature and condition of the aneurism, he thinks that absorption will most

probably take place; and more especially when the aneurismal tumour is at a distance from the spot in which the operation is performed in front of the thigh. As the foundation of these opinions he gives some cases in which the patients died from a subsequent suppuration in the aneurismal tumour; and one in which the patient was destroyed by hæmorrhage from the femoral trunk in consequence of abscesses communicating with the aneurism in the ham.

The serious danger which is likely to arise from a communication being formed between the wound in the thigh, and the contents of the aneurismal sac, may in a great measure be obviated by tying the artery at a great distance from its diseased portion in the upper part of the thigh. It is to be prevented also by procuring the healing of the wound by adhesive inflammation. With regard to the other objection, we know that patients have died from sloughing, or suppuration of the aneurismal tumour after the operation, but we have also seen absorption take place when the tumour has been almost in a sloughing condition before the operation. If the swelling is advanced to the stage in which its bursting is inevitable, it is not in a state most surely in which it would be adviseable to lay it open, and to attempt the ligature of the artery above and below the sac. The author, in the cases which terminated fatally, opened the tumour in the ham at some distance of time after the operation. It may be thought that he acted injudiciously in so doing. But it is probable that the tumours would very soon have burst, as they had gradually increased in size, and became softer and more painful after the operation, though all pulsation in them had ceased from that instant. The nature of their contents at the time of opening them fully proves also, that the resolution of the swelling was not to be expected, whilst the health of the patient was daily suffering from its presence.

The great success which attends the performance of Mr. Hunter's operation in the present day, and the happy extent to which the principle has been carried in operating on aneurisms of other arterial trunks, are circumstances strong enough to convince any unprejudiced person of the superiority of the

practice to that of laying open the aneurismal tumour. We may safely therefore, appeal to facts, without taking into consideration the many sound reasons which led to a trial of this mode, when its success was yet problematical. It is to us a matter of surprise that M. Pelletan should still hesitate, and even adhere with a kind of parental fondness to the severe and hazardous operation in the ham, which it seems he was the first to perform in France, the usual practice in popliteal aneurism being, before his time, the amputation of the limb.

In the course of this memoir, the author discusses the subjects of making a single, or double ligature, and dividing the artery in the interspace; and of tying the artery on the distant side of the tumour in some particular case of aneurism. But he evinces no great degree of knowledge on these points, nor does he adduce any facts which have novelty, or any arguments which have ingenuity to recommend them.

In the second and third volumes, the author gives at considerable length the histories of some particular kinds of aneurism, and of bloody tumours analogous in their nature to aneurism; and also of some aneurisms remarkable chiefly from situation and extent. The cases are mostly of importance, but they are not well arranged; and some of them, perhaps, are incorrectly placed here, as they do not in their nature, or in the means required for their cure, at all resemble aneurism. It would be better, whilst we remain in ignorance of the structure or formation of a morbid swelling, not to confuse it with those of which the history and treatment are simple, and well understood.

In the year 1786, M. Pelletan proposed, and was prepared to tie the artery below the clavicle in a case of axillary aneurism. His intention was to divide the clavicular attachment of the pectoralis major, but he was over-ruled by the surgeons present, who thought is best to include the muscle in the ligature with the artery. The curved needle was pushed in at a venture, but as might be foreseen, did not surround the artery. The tumour underwent no alteration, and the patient died a few weeks afterwards. On dissection the practicability of the operation proposed by the author became very evident. The

artery was readily exposed above the aneurism, and might have been secured without difficulty, and with little disturbance. In another case of axillary aneurism no pulsation was perceptible, and the tumour was at first punctured as an abscess. From the size of the tumour the shoulder was very much elevated, so as to render it impossible in the author's opinion to tie the artery above the clavicle: from the situation of the aneurism there was not room to do it below. The covering of the tumour sloughed, and the patient died from hæmorrhage. On dissection he found a dilatation of the artery of no great extent, with an evident rupture in the dilated part, and an extravasation of blood constituting the tumour. Below the aneurism the artery was obliterated for a considerable space.

In a case of extensive vascular dilatation of the arterial branches on the side of the head and face, M. Pelletan attempted a cure by a methodical compression of the external carotid artery; but the patient was unable to support the pain even for a short time. He then made a very awkward attempt to tie the artery in front of the ear. His patient was unruly and the needle passed through the vessel. Still this particular ligature, aided by compression, had a manifest effect in diminishing the pulsation in the branches above it. The patient soon after died suddenly from another cause. M. Pelletan relates also another very similar case, in which the patient refused to consent to his proposal of tying the carotid.

In the nævi materni, or vascular tumours of infants, which may be termed congenital aneurisms by anastomosis, the author has employed compression with much advantage. The success of this mode if well conducted, is we believe generally acknowledged, though it is not, perhaps, so frequently adopted as it deserves to be. In a case of this kind the celebrated Morand divided the tumour which was situated on the forehead. To restrain the profuse bleeding which followed, he employed very strong caustics. The child was seized with convulsions and died. On examination a deficiency was found in the frontal bones opposite the tumour, and the dura mater beneath was highly inflamed.

In some of the cases M. Pelletan describes a disease which

he terms aneurism by erosion, and which he compares with that described in the well known case related by Mr. Pott. Two of these from the picture he draws of them appear very like what we have in this country classed under the name of fungus hæmatodes. There is however, yet no little obscurity in the history of this most formidable malady; and we should be aware that from a wish of simplifying disease we may be too hasty in generalizing, or classing under one comprehensive title, diseases alike in their intractable nature, but in many points dissimilar. We cannot here notice any other of the cases, but we may observe that although the treatment pursued by the author in many of them, does not always accord with what we have been taught to consider as the best, and does not impress us with any very high ideas of his knowledge in this part of surgery, the cases themselves are valuable on many accounts. They generally possess much interest, and are many of them such as fall to the lot of few to observe. No opportunity is neglected of illustrating the real nature of the disease by minute dissections. Nothing is concealed. He acknowledges throughout his work, what he considers errors in his practice, as openly as he plumes himself on his knowledge and skill. In our opinion he deserves the thanks of the profession for the publication of many important facts, which he justly considers of too much importance to be allowed to die with him.

The remaining memoirs in the first volume are on the subjects of obscure syphilitic diseases, and forensic medicine, "*medecine legale.*" In the first the author advances some opinions which by many of our readers will be regarded as old fashioned, and utterly exploded. They are given here as the result of long experience, and careful observation; and they will be read with interest by those who think with us, that although much has been effected by the acuteness and good sense of Mr. Abernethy, much yet remains to be done to complete the investigations into the nature and cure of those multiform diseases, which in some of their characters often resemble syphilis, though the accuracy of modern pathologists has shown that they differ from it in others. M. Pelletan en-

deavours to prove the influence of a syphilitic taint in the constitution on many complaints which are on that account only both obstinate and severe; the continuance of such a taint in the habit, whether observable in the individual, or only in the children of a mother to all appearance sound, and the return of the syphilitic symptoms after many years of apparent health and freedom from the complaint. The remedy he has employed in these supposed secondary, or as he terms them, chronic forms of syphilis, is the oxy-muriate of mercury; and from the accounts before us it would seem with marked success. The cases are taken from the author's private practice; and the subjects of many of them are individuals whom he has been able to watch for a long series of years, and with the previous and subsequent histories of whose lives he was familiarly acquainted. He observes that little can be learned from hospital practice in these cases, as in general our patients are quickly passing visitors of whom we know nothing, and whom probably we never see again.

The memoirs on forensic medicine contain nothing which we can well extract. They place the author in a favourable light; and they are of value as exhibiting by actual occurrences the great necessity of caution in our reports. In truth there is no part of the important duties resting on our heads which requires from us more ready and accurate knowledge, or more impartial and dispassionate investigation than one in which the life and the honour of individuals depend sometimes wholly on the evidence we are to give. General directions as to our proceedings can be but of little use, where every case has its peculiarities. A just man will never forget the wide difference between uncertain, variable opinions, and demonstrable facts; and the man of science will be ever ready to distrust his own judgment, if he is not conscious of possessing a thorough knowledge of the subject under inquiry.

The next memoir on effusions of blood is divided into several parts, according to the different terminations of this accident. The author considers the decomposition of the effused blood to be the principal cause of all the train of bad symptoms which occasionally follow it. And he endeavours in

these observations to prove the correctness of his opinions by a variety of cases; some shewing the little disturbance produced by very considerable effusions if no decomposition took place; and others the dangerous consequences which invariably followed if from any cause a decomposition was effected. He examines also the various circumstances which immediately produce this alteration, the means of preventing it, and the best method of combating its baneful effects where the prevention of it cannot be accomplished.

In the first part, on the termination by resolution, we find several cases, selected from the many which he met with in an immense hospital, of effusions into serous cavities, and into cellular tissue. The visible marks of the first were found in some of these instances a very considerable time, in one more than twenty years, after the accident which produced it.

In the cases of effusion into cellular tissue in different parts, we have some striking instances of the diffusion or dispersion as it were of the blood from its primary situation, and its appearance in parts, unhurt and remote from the injured spot, a considerable time after the accident. The varying discoloration of the skin for some way round a bruise, caused by the gradual diffusion of the more fluid parts of the extravasated blood, and the chemical changes it undergoes, is familiarly known, and is justly considered as a favourable sign. But some of our readers may not, perhaps, be aware of the great extent to which this diffusion occasionally reaches: in some cases to parts as distant as possible from the injured region, especially if they abound in cellular tissues, and are from any cause in a more depending situation.

If the blood is not absorbed after some weeks, and the surrounding parts are in a quiet state, and the fluctuation distinct and circumscribed, he has in some cases opened the tumour, pressed out its contents, and by regular compression has speedily effected an obliteration of the cavity. In severer cases the parts are too much bruised to recover their healthy action, and they slough, or they become inflamed; pus is secreted and mixed with the effused blood, which is speedily decomposed. The consequences are sloughing, and ill-conditioned abscesses.

Where matter is collecting the author promptly lays open the tumour; in some of the cases related, with good success; in others no benefit is derived from it; on the contrary the large openings appear to have brought on very dangerous symptoms, and to have hastened, if not caused, the death of the patient. Fatal consequences were found also to occur after opening the tumour not only in the cases in which from the violence of the injury the parts were essentially damaged, or inflamed, but in those also where the collection was blood alone, and the parts comparatively indolent and quiet. The author attributes all the bad symptoms in the latter cases to the opening being large, and the contents not being all carefully pressed out. He insists with much earnestness on the necessity of attending exactly to the last circumstance, and of afterwards keeping the sides of the cavity in contact by constant gentle pressure. He appears to have a great dread, and we think a most reasonable one of exposing, and only partially evacuating a large cavity in such cases. Attributing all the disorder which follows to the decomposition and absorption of the remaining blood, he would rather expose the whole cavity by a free incision, wash out every particle of blood, and fill it with lint, than give room for such an occurrence by partial evacuation from a smaller opening, if the latter were not instantly closed. Openings made to let out collections of blood immediately after its effusion, are often attended with the best success. If made at a more distant period, the sides of the cavity often inflame, and much disturbance follows. Where inflammation is induced by the original injury, or by any other cause, and an effusion of pus takes place, we have to deal with an abscess which usually breaks quickly, and which seldom therefore requires to be opened, unless the fluid be confined by fasciæ.

In the latter part of this memoir the author enters into a disquisition on the nature and composition of the blood, with a view to explain some of the phenomena observable in the progress of effusions of blood toward absorption, or the formation of putrid abscesses. In the same spirit he examines the chemical action of different substances on the blood in the hope of ascertaining the most active and effectual means of arrest-

ing the progress, and preventing the fatal effects of such abscesses whether opened spontaneously, or by the hands of the surgeon.

The memoir on hæmorrhages is styled by the author an elementary one. It is neatly written, and consists of sound and well delivered precepts illustrated by cases in the different methods of arresting bleedings of whatever kind. Perhaps there is no part of surgery in which an able surgeon is at once better distinguished from a bad one, than in the treatment of hæmorrhage. The one does nothing, or nothing to the purpose; in the foolish hope that each bleeding will be the last that will occur; the other follows the danger to its source, and is not satisfied till he can command the flow of blood by efficient means. In cases where a ligature is inapplicable from the nature of the hæmorrhage, or the situation of the vessel, the author applies compression, and he here relates cases of its efficacy in important bleedings under various circumstances. It should be applied if possible immediately on the bleeding point. He remarks with great truth that pressure carelessly applied, far from checking hæmorrhage, is often a cause of its continuance, and insists particularly on the necessity of exactness and method in our proceedings. We shall all agree also with our author, that the presence of coagula between the vessel and the compress is a complete impediment to the due action of the latter. This not unfrequently happens when the wound in the integuments is small, and it is a maxim not to be forgotten, that until the coagula are removed by a free incision of the integuments, we cannot for one instant depend on compression however accurately applied.

M. Pelletan has employed the actual cautery with great success, and he prefers it to the potential cautery, or styptics, in obstinate bleedings, where no vessel can be tied, where compression cannot be accurately applied, or is found to be of no avail, and where, at the same time, from the minuteness of the bleeding vessels, there is no fear of fresh hæmorrhage on the detachment of the slough.

Amongst the cases of death from the bleeding of small vessels, is one of an infant who died from the bleeding produced

by leeches applied to the chest. That such accidents occasionally occur we have no doubt. The profuseness of the bleeding in infants, and the means generally advised and employed to encourage it without reference to this fact, often occasion so copious a loss of blood as imminently to endanger the life of the child, or to reduce it to a state of debility from which it does not immediately revive.

The last memoir in the second volume is on physiology. In it the author wishes to prove that the laws of general physics are applicable to every part of the system of the animal economy, and that in no other instance are they so evidently, and unequivocally demonstrable. In this attempt to revive in some degree what may be called mechanical physiology, he ridicules the doctrine of attributing all the phenomena of a living body solely to the influence of a vital principle, or to any peculiar properties inherent in living matter. We are far from considering the prevailing opinions in physiology as perfect; they are ingenious, but they are many of them conjectural, and in some points extremely defective. Still they proceed from more enlightened views, and are more correct, we must think, than a doctrine which considers the process of animal exhalation to be nothing but physical evaporation; which explains absorption by the laws of attraction in capillary tubes; and the circulation by the compressibility of fluids and the elasticity of arteries. We mean not to say that an animal body is exempt from the action of physical causes. We believe that they operate generally, and extensively in the animal economy; and that we shall widely err if we omit the consideration of them in our endeavours to explain the varied phenomena of animal, or organic life. All our observations go to prove the nicest mechanical structure and adjustment of parts for the different purposes they are designed to execute. But to suppose that the body is merely a machine, and that when put and maintained in action by an imaginary principle of life, the functions are all executed mechanically, and according to physical laws exclusively, is at least quite as absurd as to attribute every thing to the individual properties and energies of living matter, to the exclusion of external agents, and of those general prin-

ciples which are known to operate universally, though their action is modified according to the qualities of the bodies on which they act.

The third volume contains two memoirs on hernia, with others on the subjects of diseases of the heart, of effusions into the chest, and of amputation.

The memoirs on hernia consist almost wholly of cases, with a few remarks on each. To follow the author through these would be inconsistent with the brief notice which a review permits. Nor is it an easy matter to present the author's opinion on any given point relative to this disease. Perhaps there is no subject in surgery on which so much has lately been written, or so well written as on hernia. It may be thought by a few that enough has been said to exhaust the topic, and that any surgeon possessed of the information which our recent publications afford, will not feel himself at a loss how to act under whatever combination of untoward circumstances the complaint may show itself. Yet from a faithful record of extensive personal experience there is alway something to be gleaned, were it only a knowledge of the variety of forms in which a disease has actually occurred, and of the unforeseen accidents which have practically called forth the skill and knowledge of able men.

M. Pelletan is apparently unacquainted with the nicer distinctions of English surgeons with regard to the anatomy of hernia; or at least he nowhere notices them. We have not one direction as to the best mode of operating, but very many as to the best season. No remarks on the situation of vessels which may be endangered by the knife, but numerous observations on the difficulties the surgeon may have to encounter in complicated cases, and on the readiest means of overcoming them.

The first memoir is divided into two sections. In the first M. P. describes varieties in the external appearance of hernia, with respect to form, volume, and situation. Amongst the more remarkable cases are some of ventral hernia, caused by pregnancy. In one of these nearly the whole of the great and small intestines, with a portion of the stomach, were found in

the hernial sac. The author introduces also in this place some cases of loose fatty tumours, in form and situation strongly resembling hernia. As such cases are not generally known, and have been rarely noticed by others, we shall follow the author through his account of them.

In a male subject brought into the dissecting room many years since, he observed two swellings corresponding to the openings of the abdominal rings. They were rounded in form, extending on each side into the scrotum. Their softness and the inequalities of their surfaces made him look on them as omental ruptures. The facility with which he was able to reduce them confirmed him in this opinion. On dissection he at first observed a membranous sac, slightly adhering to the cellular tissue of the scrotum and neighbouring parts. On opening this he found a mass of irregular form, with many processes also loaded with fat, resembling the appendices epiploicæ of the colon. The whole was included in a smooth polished membrane like peritoneum. It was easily pushed up and brought down again through the ring, the sac following the tumour. On examination from the abdomen, he was surprised to find the omentum at a distance from the ring, and in no respect concerned in the formation of the swelling, which was found to proceed from a part between the peritoneum and the posterior surface of the bladder. From this place a mass of cellular tissue loaded with fat, was continued in the direction of the abdominal canal through which it passed, drawing with it the peritoneum by which it was immediately covered, and pushing before it the peritoneum occupying the internal opening of the ring. In this way a perfect sac of peritoneum was produced, corresponding to the fatty mass which projected into it, as the testis projects into the tunica vaginalis. It communicated freely with the abdominal cavity, so that both intestine and omentum might have passed into it, though this does not appear to have happened in this instance. The formation of this species of herniary tumour, if the term may be used, may be compared to what takes place in the descent of the testes. The author describes some other varieties of this tumour in different situations, all of which most probably in the living

subject would be mistaken for omental hernia. They occurred most frequently in fat subjects.

The second section contains cases of strangulated hernia in which the operation was performed with success. The author's object is to point out the circumstances on which this fortunate issue may be thought more immediately to depend. The cases present a considerable variety of treatment arising from the different symptoms, and peculiar circumstances of each. But, though they offer much that is important, we do not find any thing that is new in practice. It is well known that the indications after the reduction differ widely in various cases, and that we have often to combat the disease consecutive to strangulation, after the total relief of the strangulated part. The propriety also of operating early, and of pursuing a strenuous depleting and antiphlogistic treatment after the operation in the acute form of hernia are points well established in surgery. Some of the cases are complicated, but not so much as to be considered very uncommon, or requiring any extraordinary management.

M. Pelletan relates several cases of artificial anus, in consequence of mortification of the intestine; and one the consequence of a wound inflicted during the operation. In one of these the opening closed, in the others it remained during life. In a case after crural hernia, the patient continued doing well, with the external opening closing, whilst she was confined to a low and regular diet. After eating freely of improper food, an accumulation took place above the opening, and brought on very dangerous symptoms. The opening was enlarged by the knife, and the symptoms were speedily removed. The same accident occurred from the same cause a second time. The patient refused to submit to any operation, and died. It appeared on dissection, that the adhesion between the intestine and the opening had given way, and that the contents of the bowels were poured into the abdomen. From this and from other cases he takes occasion to argue against the practice of attempting to cure an artificial anus by compression. If the passage from the upper to the lower part of the gut opposite the opening is so far continuous and free as to allow of the

fæces being partly evacuated by the anus while the patient observes a temperate diet, the opening may generally be brought to close by continuing the same abstemious diet, by rest, and by the frequent use of glysters. Compression in this case is injurious, as it prevents the partial evacuation by the wound before the tube is sufficiently dilated to allow of a free passage downwards. As the natural course becomes less obstructed, the external opening will contract without assistance. If no fæces pass by the anus, while the patient is confined to a moderate and liquid diet, the author thinks any attempt to close the opening dangerous; he advises a more generous diet, and takes care to preserve the freedom of the unnatural opening.

In the second memoir on hernia, our author takes into consideration the general causes, as well as the accidents and complications in the disease which render the operation of no avail, either because they are not rightly understood at the time of the operation, or because they are in their nature so vitally dangerous as to place the case beyond the assistance of art. Although M. Pelletan is evidently a vain man, he is always open and honest in his relation of cases, and exposes his own errors without any reservation, if he thinks he can thereby improve the science. The cases he here gives derive an additional value from the cause of death being always authenticated, and made evident by dissections. Our limits however, will not allow us to make any selection which would be satisfactory, although we are sure that an attentive perusal of these cases cannot fail to impress some important lessons on the minds of many of our readers.

The memoir is divided into three sections. In the first are arranged the cases which terminated fatally from the nature of the stricture. In some of these the hernia could not be reduced; in others when reduced it was still tied by an internal stricture. In one instance the author in returning the intestine after dividing the stricture, committed the mistake of pushing the former between the peritoneum and the muscles. The symptoms of strangulation continued, and the patient died. This accident we have seen occur in one of our own hospitals, and in the hands of a very good operator. The bistoury was

passed between the sac and the edge of the tendon in dividing the stricture; and the intestine instead of receding as it should do into the abdomen, was pushed by the finger into the artificial recess prepared for it by the knife, so as to remain completely strangulated.

The second section contains cases which terminated fatally from the intenseness of the inflammation, or from the delay of the operation, the progress of the symptoms not being at all arrested by the relief of the stricture.

The third section contains cases of crural hernia. M. Pelletan considers these in general as less rapidly dangerous than inguinal ruptures. He says "the inflammation which in inguinal ruptures spreads so quickly, is slower and more uniform in its progress in crural hernia; and it is more from a conviction of the final necessity of operating for the relief of the stricture, than from the urgency of the inflammatory symptoms that the surgeon decides on operating." His cases however, do not all bear him out in this opinion, which differs completely from that expressed by the best writers on the subject in this country.

The memoir on some of the diseases of the heart does not offer much that is new. It contains some cases of acute and chronic inflammation of that organ: some of effusion into the pericardium not distinguished during life; and others in which the existence of a fluid in that cavity was regarded as certain, yet no more than the usual small quantity was found after death. He relates two instances in which the valves at the opening of communication, between the left auricle and ventricle were found much diseased, and the opening very considerably narrowed. He considers this case as rare, and not hitherto described.

In the subject of one of the cases in this memoir, an ulcer was found in the right ventricle, which had nearly penetrated through its substance. The patient had been ill for some months with inflammatory symptoms about the chest at the commencement of the disorder, and fixed pain in the region of the heart towards its termination. The author relates also

a case of degeneration of the muscular structure and powers of the heart, and another of passive enlargement of its cavities.

In the memoir on effusions of fluid into the chest, and the propriety of withdrawing them by an operation, M. Pelletan gives many pertinent and original observations, which are the more valuable as these disorders are obscure, are frequent in their occurrence, and highly dangerous in their nature. In different sections he discusses the management of effusions of blood, of pus, and of serous fluid. In the first he thinks an operation scarcely ever adviseable, unless there be symptoms of a decomposition of blood with purulent effusion; unless, in short, the case becomes analogous to one of a simple collection of pus. In this second kind he distinguishes the symptoms of collections formed in the cellular tissue without the pleura, from those within its cavity. Abscesses between the pleura and the bones surrounding it, both in an acute and chronic form, are by no means uncommon. They should be opened early. In a sound habit, and not attended with caries, they heal spontaneously without any particular management. In the contrary case they are at best tedious, and frequently fatal. The author relates some instances of very large collections in the anterior, or posterior mediastinum, accompanied by caries of the sternum, or dorsal vertebræ, which terminated fatally soon after they were opened. He much deprecates the practice of opening such abscesses, especially those produced by a disease of the vertebræ, as he has invariably found that the death of the patient was, at least, hastened by the operation. His practice is the same, being founded on the same principles, as that adopted by Mr. Abernethy in the case of lumbar or psoas abscess.

Pus in the cavity of the pleura, may be secreted by the diseased surface of that membrane, or may proceed from an abscess in the lungs, or in the cellular tissue surrounding the pleura. The symptoms of such effusions are sometimes illusory, and the knowledge of this circumstance should put us on our guard. Our author strongly advises that the matter should be withdrawn by puncture. If the collection be circumscribed, and there be any external appearance indicative of this, the

opening should be made at that point; but if there is not a projection he makes the opening between the second and third false ribs. He does not allow all the matter to flow out at the time of puncture, but introduces a small strip of lint into the opening, so as to permit it to ooze gradually away, covering the whole with compresses, and a moderately tight bandage.

In dropsy of the chest he does not expect much advantage from evacuating the water, unless at the same time the cause of the effusion could be removed. If any operation is performed, he advises that it should be done in the manner recommended above.

In the memoir on amputation, the author touches on the cause which requires this operation, and describes briefly the different modes of performing it. He prefers, with some little variation, that described by M. Louis in a masterly memoir on this subject in the Memoirs of the Academy of Surgery. But we were utterly surprised to find him averse to one of the most capital improvements in modern surgery, the attempt to make the cut surfaces unite by adhesion in the first instance. We had thought the practice to have been universally adopted, as one founded on the soundest principles, and confirmed by every day's experience. M. Pelletan prefers dressing the stump with lint, which he applies to the cut surface, making no attempt to bring the skin over the wound until the whole is covered by granulations. He says, that by a practical comparison of this mode with the one generally followed, he is well satisfied of its superiority. He gives many reasons for his preference. The principal are, that the skin can seldom be placed or kept in accurate apposition with the uneven surface of the muscles: that in almost every case some blood oozes from so large a surface, and is collected in the interspace, becoming the cause of further effusion: that frequently the bleeding is such as to require an exposure of the stump; and that where it does not proceed to this length, it becomes decomposed, and gives rise to ill-conditioned suppuration with serous discharge, preventing all union by adhesive inflammation, and producing a caries of the bone. So that after no little risk, and much constitutional irritation, the patient is really in a worse situation

than he would have been if the stump had been left open at first, and no approximation of the cut surfaces had been made until the suppuration of the wound was declining.

We cannot but think that the author has magnified the accidents which prevent the immediate closure of the stump, and described as occurring generally, that which happens but very rarely under the hands of a careful surgeon. We have certainly often witnessed cases in which it has been necessary to remove the dressing on account of considerable bleeding; and others in which a deposit of extravasated blood between the muscles and the skin, has caused all the evils he points out. We think these accidents have occurred more particularly in hospitals, in which for the instruction of the students it is the custom to dress the stump immediately on the operating table. This is often done while the patient is yet faint, and cold. The removing him afterwards causes some disturbance; and as the warmth returns in bed, and the force of the circulation is restored, effusion often takes place to a considerable degree. The best practice is not to dress the stump until the patient has been some time in bed, and is recovered from the shock. If the wound is then carefully cleaned, and the cut surfaces accurately brought together, and kept so by gentle compression, hæmorrhage will scarcely ever occur, nor will more be effused than the lymph necessary for the adhesion and union of parts. So little risk is there, indeed, of serious bleeding, and such is the quickness and ease of the cure in most cases, that we cannot for a moment hesitate to prefer the means which effect it, to the painful, and unnecessarily lengthened course pursued by our author.

We close this analysis, if not with feelings of admiration for eminent talents, certainly with those of respect for considerable zeal for the improvement of surgery. M. Pelletan's contributions to the stock are numerous, and many of them of a value sufficient to make us sincerely hope that he will fulfil his promise of adding to them.

Practical Observations on various novel Modes of Operating on Cataract, and of forming an Artificial Pupil. By ROBERT MUTER, Holbeach, Member of the Royal College of Surgeons in London. 8vo. Wisbeach printed. 1811. pp. 115.

[From the Medical and Physical Journal, for April, 1812.]

THIS is a treatise upon a subject, it must be allowed, of importance, but which has received so much elucidation as hardly to admit any novelty beyond that of method in treating the subject. But even this may be of great value. The terseness, perspicuity, and elegance, of one writer, may render clear, pleasing, and intelligible, what the confusion and dullness of another involves in darkness and obscurity.

The object of Mr. Muter is laudable. He intends "to produce an uniform mode of operating in cataract, and in forming an artificial pupil, to give as little disturbance as possible to the structure and natural situation of the parts of the eye:" and he aims at perspicuity by dividing his little book into thirteen sections.

The first of these treats on the opake crystalline lens, its colour, various consistence, and symptoms. The crystalline has been observed to become opake first in its centre. Sometimes the opacity spreads rapidly, at others it is imperceptibly diffused: the diseased lens sometimes adheres to its capsule, and blood-vessels have been seen shooting upon it through that membrane. The colour of the opake lens is sometimes dark, at others pearly white. The most early and the most certain symptom of cataract, independent of the detectable opacity of the lens, is a settled mist, covering and confusing objects.

The second section is an enumeration of instruments; the third treats on "the mode of laying open the capsule of the lens, through a puncture in the cornea." The object of this operation is to admit the aqueous humour to act freely on the opake crystalline. The steps of the operation are thus described.

"The patient is to be seated in a low chair, before a light

not too bright and active; the eye not to be operated on, covered by a compress retained by a bandage. The patient's head is then to be placed obliquely to a window, so that the eye to be operated on may be inclined towards the outer angle of the orbit. The operator, being conveniently seated, is to place the fore and middle fingers of the left hand upon the tunica conjunctiva, just below, and a little on the outside of, the cornea. At the same time the assistant, who supports the head, is to apply one, or, if the eye projects sufficiently, two of his fingers upon the conjunctiva a little on the inside and above the cornea. The fingers of the operator and assistant thus opposed to each other, will fix the eye and prevent the lids from closing. The eye being thus fixed, the point of the needle is to pierce the cornea in the line of its transverse diameter, immediately anterior to its connexion with the sclerotica. It is then to be guided slowly forward, with its flat side parallel to the iris, until opposite the pupil. The point, being then turned backward, punctures the capsule of the lens near the border of the pupil on the same side it entered; and, passing a little way behind the capsule, not so far as to endanger the opposite side of the pupil being cut, its cutting edge is turned upward toward the capsule, and its point elevated. The cutting edge of the needle will divide that portion of the capsule between the point of the needle and where it first entered. Should it be thought proper to attempt to break down the lens, it would be more safe to withdraw this needle, and introduce one having a small curvature towards its point, and without a cutting edge."

The direct object of this operation, as just observed, is to admit the solvent properties of the aqueous humour to act upon the diseased crystalline, through an opening in its investing membrane, made in the manner above described. Professor Scarpa and Mr. Hey fully justify this operation, which with them has been generally successful. Sometimes the whole, at other times, if the crystalline has been broken down by the proper instrument, portions of that lens escape into the anterior chamber of the eye, but are soon dissolved and quickly absorbed. For some precautionary circumstances, and

remedying infortunia as they may occur, we must refer to the work.

The extraction of a soft cataract, through a puncture or small incision of the cornea, is the subject of the fourth section.

The operation described in the preceding section, is considered, under particular circumstances, as preparatory to this of extraction. We have not room to transcribe Mr. Muter's description of the operation, but we must notice a point as we conceive of practical importance. It is that of preventing the escape, and leaving undisturbed the vitreous humour. This desirable object is effected by guarded and moderate pressure on the globe of the eye; and by carefully opening the anterior portion of the capsule of the lens only, leaving the posterior part in its natural state.

Section five, is occupied by a "new mode of puncturing the capsule of the lens, and fixing the eye in the operation of extraction." The particular objects of this section are to show the advantages arising from puncturing the capsule of the crystalline, and admitting the aqueous humour to act, by its solvent powers, on the lens, sometime previous to extraction. By this, some difficulties are avoided in the operation, which occur when the section of the cornea is made previously to opening the capsule; and when the cataract is pulpy it may be dissolved and absorbed, rendering extraction unnecessary: and even a hard cataract may be diminished in size by a solution of some lamella of the lens. We see no other objection to this than what may arise from the patient's feelings. If he has been taught to believe that the whole will be performed at once, his disappointment will be great when he finds his eye is to be cut into again at another period. If the advantages gained are decided, this will not be a valid objection. The other part of the section describes an instrument by which the capsule may be punctured, the eye fixed without pressure on the ball, and the incision of the cornea made at the same time, with the method of using it. If, however, the author establishes his point, that the puncture in the capsule should be made some time previous to the incision of the cornea, we do

not see why he should tax his ingenuity with the invention of an instrument that is to make the "puncture and incision of the cornea at the same time."

The sixth section describes "a new mode of extracting the cataract through an incision in the sclerotica."

"A puncture is to be made, by a couching needle, in the *sclerotica*, at the distance of little more than a line from its union with the cornea. Through this puncture a small hook is to be introduced, which is to be directed behind the capsule; so much only of it is to be introduced that its point, when brought forward, will reach the centre of the crystalline. If the length of the hook from its handle be little more than the diameter of the eye, the operation may be performed with great facility, being now very similar to couching. If, in bringing forward the point of the hook, the cataract is perceived to be pushed forward, and the pupil dilated, the operator will discover that it is of a firm consistence. When the hook has got sufficient hold of the cataract, that it may be removed from the axis of vision, the hook is to be withdrawn until resisted by the coats of the eye. The operator holding it, with the cataract affixed to its point, in the left hand, the patient's eye being turned inwards towards his nose, makes an incision with his right by a common scalpel through the sclerotica. The incision is to be begun at the puncture, and carried onwards, in a straight line, towards the external canthus. It should not be made directly into the eye, but in a slanting direction, through the coats. When the incision is of sufficient extent to permit the extraction of the cataract, it is to be withdrawn on the point of the hook. The lips of the wound should be neatly adjusted, and the eyelids closed."

The objection to this method is the formidable inflammation that will, probably, occur in the sclerotica. We are informed that our author is making experiments on inferior animals with a view to ascertain the degree of inflammation that may be expected to follow an incision in the sclerotica.

The extraction of the opake lens, when adhering to the iris, is treated of in the seventh section. It frequently happens, that, after severe inflammation, not only the capsule but also

the crystalline itself adheres to the iris. In such cases, though the incision of the cornea has been made of sufficient extent, and the capsule punctured, the lens does not escape from the eye. Nor will it be protruded through the pupil into the anterior chamber, even on the application of such pressure as might endanger the rupturing of the posterior portion of the capsule and membrane of the vitreous humour, or separation of the iris from the ciliary process. Our author recommends the removal of the adhesions by repeated attempts, rather than using much force at once. But we must refer to the section itself for a fuller explanation of his views.

A diseased condition of the vitreous humour is an impediment to the successful termination of operations for cataract. The infortunia attendant on this circumstance are the sudden sinking of the lens into the vitreous humour in attempts to lacerate its capsule; and, when a section of the cornea is made, the escape of that humour with the lens. The eighth section treats on this subject, and endeavours to guard against the above accidents.

The ninth section, which closes the first part of these "Observations," explains "the different modes of operating, by which the several kinds of membranous cataracts may be removed from the axis of vision, or extracted through a puncture in the cornea."

Three species or varieties of cataract are noticed in this section:—1st, The capsular, in which the opacity exists in the capsule of the crystalline. 2d, The lymphatic, formed by the coalescing of fragments, which remain after an operation. 3d, The reticulated, frequently a new production of a delicate fabric, resembling a spider's web.

The capsular cataract, or, as it is often denominated, with a reprehensible want of precision, the membranous, throughout the section, is described in many of its varieties, and the modes of operating laid down. The second and third species are barely noticed. We cite the following passage on account of its describing an ingenious, though perhaps too complicated, instrument.

"Sometimes, in secondary cataract, the vision is diminish-

ed by opake fragments of the capsule, of a triangular shape, attached by their basis to the margin of the perforated capsule, and stretching their apices towards the centre of the pupil. When these fragments are small, and the vision but little diminished, as considerable difficulty and danger of injuring the iris may attend any attempt to remove them, they should be suffered to remain. From the retraction of their apex, and being acted on by the aqueous humour, they generally in time become less. Whereas, when they are large, and, instead of being diminished, increase in size, they should be extracted as soon as this is perceived. These fragments may commonly be removed by puncturing their base with a small hook, and then gently turning it in different directions. But in some cases where the capsule adhered to the iris, they have been found to become thick and bulky, and forming a tough knob. In such cases they occasionally were not to be removed, even by the iris scissars. Did this occur so frequently as to merit attention, these knobs might be removed by an instrument resembling a flat canula, armed with a very fine silver or gold wire, and inclosing a little bistoury, having a cutting edge towards the end of the canula. This instrument being introduced through a puncture in the cornea, the wire is to be passed beyond the knob, and then drawn tight, so as to bind it to the end of the canula; the operator then slides the edge of the little bistoury beyond the end of the canula, and separates the knob from the capsule."

Connected with diseased crystalline, or consequent to an operation for removing that lens when opake, and resulting from an inflamed eye, is an altered and deranged state of the iris, contracting and often closing the pupil. In this state of the iris, the operator sometimes succeeds in restoring vision by forming what has been technically termed an *artificial pupil.* It is the business of the remaining sections of this volume to point out the varieties of this altered structure of the iris, and to show how they may be removed by art.

Two general classes of causes give rise to defects of sight, which require the formation of an artificial pupil. One of these is confined to the iris, the other to the cornea. If the iris

is completely closed by obliteration of the pupil, vision is lost; if it is contracted and partially closed, vision is diminished. If the cornea becomes impervious to the rays of light in the part opposite to the pupil, vision is impeded, diminished, or lost. In the tenth section, treating "on different deranged states of the eye which may be relieved by an artificial pupil," the species or varieties of morbid alterations, arising from these causes, are explained.

"When the rays of light are prevented from falling on the retina, by the contraction or closure of the pupil, if the transparency of the cornea remain uninjured, a portion of the iris may be removed, and vision in a great measure restored. Total opacity of the cornea has hitherto been, and probably will for ever remain, irremediable; but, in these cases where a considerable part of it remains transparent, some degree of vision may be restored by the removal of a portion of the iris, opposite that part of the cornea which retains its transparency."

On this principle the eleventh section proceeds to point out "the different modes of forming an artificial pupil."

Of all the operations performed upon the eye, those which are employed to remedy deranged and altered states of the iris, are the most difficult. The delicacy of structure, the mobility and the situation of the iris, concur to render precision and manual dexterity, in a superior degree, requisite in the operation. It is true, we believe, that our countryman Cheselden first ventured on this operation. Since that time a multitude of oculists have undertaken it, with shades of difference in their methods. Those particularly noticed by our author, are Janin, Maunoir, de Wenzel, Scarpa, and Gibson; to the latter of whom he gives the preference. The work of Mr. Gibson, on which this superiority is founded, was reviewed in one of our former numbers for the year 1811.

There are two conditions of the eye upon which this operation is founded. They respect the locality of the artificial opening: in one the opening is made in the natural situation, the centre; in the other, toward the margin, of the iris. The remaining sections 12 and 13, are appropriated to an explana-

tion of these. For the detail we must refer our readers to the work.

Of the general merit of these "Observations," we must, every disadvantage considered, speak favourably. As issuing from the press of a small provincial town, we admit them to be indicatory of that spirit of literature which is pervading the most remote corners of the empire: and, though we cannot object to the investigation of any part or branch of the art, we are of opinion that by a close and critical examination of local circumstances, as they tend to preserve health or produce disease, as they modify morbid changes, or explain the operations of nature, more would be gained to science, than by labouring on subjects which require a greater space for observation than country practice presents.

On the Embalming of dead Bodies. By MATTHEW BAILLIE, M. D. F. R. S. Fellow of the College of Physicians of London, and Honorary Fellow of the College of Physicians of Edinburgh.

[From the New Medical and Physical Journal, for September, 1812.]

THE object of this paper is to describe a method of embalming dead bodies, which shall effectually preserve them from decay. The process here recommended is the result of some experiments made upon children, either still born or who died soon after birth; but the same method of embalming, we are told, will be effectual, whatever may be the size of the body. Dr. Hunter's method of embalming, although effectual in preserving the body from decay, was extremely tedious, occupying many hours, and was attended with much unnecessary difficulty. The viscera were cut out, their vessels were tied up, and they were a second time injected; the same operation was also repeated in the remaining vessels of the body. These inconveniencies are all obviated by the following improved method of Dr. Baillie.

"An injecting pipe was put into the umbilical vein, and the blood vessels of the whole body were well filled with the antiseptic fluid formerly mentioned, consisting of essential oil of turpentine, with a small portion of Venice turpentine dissolved in it, and well charged with vermilion. Had the children been older, or had the experiment been made upon a full grown body, the injecting pipe would have been put into one of the inguinal arteries, and all the vessels of the body would have been injected from it. This will form the only difference between the method of embalming a child newly born, and that of embalming a person of any age, after the umbilical vein is obliterated. It ought to be remarked, however, that when the vessels of the body, generally, have been injected from one of the inguinal arteries, a ligature should be immediately made upon this artery above the pipe, and that the pipe should afterwards be taken out, and put again into the same aperture of the artery, but directed towards the foot. The vessels of this limb should then be filled with the antiseptic fluid, a ligature should be made upon the artery under the pipe, and the pipe should be taken out. In this way the injection of the vessels of the body will be complete.

"When the body is of such a size, as to be capable of being readily put into a tub of warm water, for an hour previous to the injection of its vessels, there will be an advantage in doing it; because the antiseptic fluid will penetrate into the minuter vessels of the skin, and give it a more florid colour. This, however, is not at all necessary for the preservation of the body. After the body has been injected, it should remain at rest for an hour or two, that the fluid may have time to settle. The thorax and abdomen should then be laid open, exactly in the same manner as they are, when a body is examined for the purpose of discovering any morbid appearances in these two cavities.

"An opening should next be made into the duodenum, about two or three inches distant from the pylorus, and a large injecting pipe inserted into it, with its direction towards the stomach. Water should be thrown through this pipe by a syringe, so as to wash clean the stomach, the œsophagus, the

pharynx, the mouth, and the nostrils. The pipe should then be taken out, inserted into the same opening in the duodenum, but directed towards the intestines. Water should then be thrown in, to clean the small and great intestines.

"When this has been done, a ligature should be made upon the œsophagus at its upper extremity, and another ligature should be made upon the rectum, as low down in the pelvis as the reflexion of the peritonæum will allow. Camphorated spirits of wine should then be thrown in, by a pipe inserted into the opening in the duodenum, so as to distend moderately the small and the great intestines, the stomach, and the œsophagus. The pipe should now be withdrawn, and the opening in the duodenum closed by a strong ligature. A small opening should next be made in the trachea, almost immediately under the cricoid cartilage of the larynx; an injecting pipe should be put into it, and the air-cells of the lungs should be moderately filled with camphorated spirits of wine. The pipe should then be withdrawn.

"A ligature should next be made round the aorta, close to its origin, and the cavities of the heart should be laid open, for the reception of an antiseptic powder, the composition of which shall afterwards be described.

"The urinary bladder should then be squeezed, so as to be completely emptied, and should be laid open at its fundus. When this has been done, the surface of all the viscera of the thorax and abdomen, together with their parietes, should be washed with camphorated spirits of wine. Then all the interstices of the different viscera of the thorax and abdomen should be filled with an antiseptic powder, consisting of camphor, white resin, and nitre, intimately mixed together. With this powder too, the cavities of the heart and the urinary bladder should be filled.* The proportion of these different ingredients to each other is not of much importance, as in the three

* In two of the children, I opened the head at the anterior fontanel, took out a portion of the brain, and filled the cavity with the antiseptic powder. In the third child, I made no opening into the head at all, yet the head is perfectly preserved from decay. This operation is therefore unnecessary.

children which I embalmed, it was different in each. Two parts of camphor, one of resin, and one of nitre, will probably be as good a proportion as any other. Some essential oil of rosemary, or lavender, or both, may then be sprinkled upon the surface of the powder. The oil will give an agreeable odour, but is not necessary for the preservation of the body. The body should then be very closely sewn up.

"The mouth, the nostrils, the passages of the external ears, the rectum, and the vagina, (if a female is embalmed) should be filled with the antiseptic powder already described. The humours of the eyes should next be let out, and the space between the eyes and the eyelids should be filled with the antiseptic powder; after which the two eye-lids should be brought into close contact with each other. The body should then be rubbed over with some aromatic oil, as oil of rosemary or lavender. All the limbs and other parts are then to be put into the posture, in which they are to remain, upon a bed of Paris plaister, or any other absorbing substance."

Observations on the Nature and Cure of Dropsies. By JOHN BLACKALL, M. D. Physician to the Devon and Exeter Hospital, and to the Lunatic Asylum near Exeter. London. 1813. 8vo. pp. 428.

[From the (London) Quarterly Review, for July, 1813.]

THE endeavours of those who have sought to improve the practice of medicine by applying to it facts or principles discovered in any other branches of physical science, or even by the introduction of any subtile refinements of investigation into morbid physiology and pathology, have hitherto been attended by no very decided success. An attempt of this kind is made in the present work of Dr. Blackall; and in a form, which is at least sufficient to excite our attention, and to induce the medical world to submit to the test of further experience the observations which it contains: but the concurrent testimony of such experience, in the hands of various practitioners, is obvi-

ously required, before their universal truth and importance can be admitted as sufficiently demonstrated.

Dropsies have been attributed by some authors to the inactivity or obliteration of the orifices of the absorbents of the respective cavities alone; but there can be little or no doubt that, in all serious cases, the secretion of the exhalent arteries has also undergone a morbid change. With whatever other disturbances of the processes of life these diseased affections may be connected, we are totally ignorant of the general nature of such a connexion: frequently they seem to be preceded by a state of inflammation, which has sometimes been supposed to have obstructed the orifices of the absorbents by an effusion of lymph, while the exhalents have remained pervious; but frequently also there is no appearance of any affection of this kind, and sometimes mechanical pressure on the trunk, or larger branches of the absorbents, seems to afford a tolerable explanation of the occurrence of local oedema. In general dropsy, it was discovered by the ingenious and industrious chemist Mr. Cruickshank, that a portion of the serum of the blood, at least of its albuminous or coagulating part, was usually mixed with the secretion of the kidneys: and the distinction of the nature and treatment of dropsies, according to the presence or absence of this symptom, constitutes the principal subject of Dr. Blackall's work, which is deduced from a series of observations, continued for several years, on an extensive scale.

With respect to the pathological part of the investigation, our author's labours seem to have been in great measure anticipated by Dr. Wells, of whose papers, published in 1812, the Postscript contains an abstract. In the dropsy following scarlatina, Dr. Wells found much danger from inflammation of the pleura or peritoneum: in a large proportion of cases the kidneys secreted some red blood; in many more their secretion was turbid, and in all severe cases it was coagulable by heat. In dropsy not following scarlatina, the coagulation took place in a little more than half of the cases examined; sometimes by heat only, and sometimes by the addition of nitrous acid, a test which becomes necessary where the fluid is so

much diluted as to contain less saline matter that in its natural state; for in this case the addition of any neutral salt is sufficient to render the albumen coagulable by heat as usual. Anasarca and hydrothorax most commonly exhibited the coagulum; ascites less frequently. It often happened that the whole fluid exposed to heat became solid; sometimes softish, but sometimes quite firm: an effect which took place when common serum was added to the same secretion in a healthy state, in the proportion of one to four. From this mode of estimation it was concluded, that in one case as much as seven ounces of serum was discharged every day. In healthy persons Dr. Wells could scarcely ever discover any traces of a similar deposition of albumen; in some chronic diseases, especially where mercury had been employed, it was more or less observable. Bark and steel were of no use where it appeared; nor were squills, digitalis, and crystals of tartar so beneficial as in other cases: the tincture of cantharides seemed, however, to be more successful. Mr. Brande found, in a case of this sort, a considerable quantity of albumen precipitated by sulphuric acid, and an almost total deficiency of urea.

The principal part of Dr. Blackall's book is filled with a minute relation of cases of dropsies of all kinds, with their treatment, and sometimes with the appearance on dissection. Besides the distinctions derived from the presence or absence of a coagulum, Dr. Blackall seems to think that a high colour, and a large portion of extractive matter, where the coagulum is wanting, denote a strength of constitution with internal obstruction, (p. 192) and require active diuretics and deobstruents; and that the opposite state of great dilution indicates a feeble and impoverished habit, and sometimes a constitution completely broken down. With respect to the treatment of dropsy where the coagulum is discoverable, his observations are more elaborate and original.—p. 277.

'Stahl remarks, that hæmorrhages are cured by moderate depletion, but by the use of astringents and tonics are converted into dropsies; and our practice will be rational in dropsy itself, in proportion as we keep the spirit of this observation in our view. The loss of the serous part of the blood, which

so remarkably distinguishes it, presents to us a symptom of a very debilitating kind; and our first consideration of the subject might naturally enough encourage us to attempt its cure by those remedies, which, from their effects on occasions not apparently dissimilar, are called astringents. If, however, the doctrine of Stahl is ever true in an actual inflammatory hæmorrhage, it is certainly most strictly so with regard to this flux of serum. Whoever endeavours to restrain it by bark, steel, and similar remedies, will inevitably see reason to repent that attempt in an increased tension and fulness, a pulpy countenance, a cough, if there has been already none, and in worse cases a true peripneumony. The very symptom for which he has prescribed will likewise be aggravated. Experience more than enough has convinced me of the truth and importance of this observation. Not, indeed, that practitioners can be said generally to act in contradiction to it; for they have too much overlooked the appearance to which it relates, to have made its removal an object of their contemplation. But it is so common an error in practice to impute discharges to debility, and endeavour to check them by astringents, that it cannot be too much provided against.'

It appears, however, (pp. 80 and 188) that where the urinary coagulum is very loose, bark, and other tonics are beneficial.

The author proceeds to recommend very strongly that great attention be paid to the signs of inflammation, not only preferring febrifuge hydragogues, but frequently employing even venesection, especially where there are symptoms of pneumonia, after mercurial courses, and in inflammatory anasarca; the firmness, copiousness, and early appearance of the urinary coagulum, affording the best guide for the administration of this remedy. Purgatives in general have the advantage of obviating an inflammatory tendency; but in hydrothorax they are generally ineffectual. Half an ounce of the supertartrite of potass daily stands 'in the very first rank,' especially where there is much urinary sediment and coagulum; it is less appropriate where the kidneys are feeble and their secretion watery. Antimonials also seem to favour the

operation of laxatives. Of diuretics, squills are the most likely to be serviceable in proportion as the coagulum is less marked, and there is less appearance of inflammation and of indigestion; they operate best in the fullest doses that can be borne, and the mixture of gum ammoniac with nitrous ether seems to afford a good vehicle for administering them (p. 66.) Cantharides, and other stimulating diuretics, our author thinks have a tendency to promote the appearance of coagulum. Tobacco seems to have some pretensions to notice; but digitalis is the most important of all diuretics where the urinary coagulum is present; in its absence, and where the fluid is 'pale and crude,' it seems to fail almost uniformly: (p. 297) in the hydrothorax, its powers are truly astonishing, but it ought not to be rashly mixed with other diuretics, nor with mercurial deobstruents.

Here, however, we must observe, that we have very lately been witnesses of the total failure of a full dose of digitalis in a case of hydrothorax, which was soon afterwards completely relieved by mercurials, carried to the extent of an incipient salivation, and combined with antimonial medicines. Against an over dose of digitalis, blisters on the stomach and opiates are recommended. Dr. Blackall entertains some doubts whether the tincture is equally diuretic with the infusion and the powder. He strongly insists on the efficacy of digitalis in subduing an inflammatory diathesis, and considers it as in many cases equivalent to venesection; nor is he disposed to admit the exceptions made by Withering, Maclean, and later authors, against its use, where inflammation is present. He is even inclined to believe that the blood may generally be in an inflammatory state in the dropsy of debilitated constitutions, and that digitalis may be beneficial in 'breaking down' its 'altered texture;' (p. 316) here however we fear he is venturing a little too far into groundless theory. In other states of the body, digitalis does not appear to be diuretic. (p. 317.) Broom, artichokes, and bohea tea, are cursorily mentioned; opium more favourably; and certainly the effect of this powerful medicine in diabetes would lead us to expect benefit from it in many dropsical cases. Tapping and scarifications have

been observed to alter the nature of the urinary coagulum; but the relief derived from these operations is scarcely ever permanent. The diet, our author thinks, has usually been too cordial and stimulant: where there is hyperuresis, he forbids fruit, and recommends soda water; with respect to thirst, he observes that it is rarely not to be gratified. In a species which seems to have been the hydrops (anasarca) cacotrophicus, in the crew of an Indiaman, the use of well fermented bread appears to have produced an almost instant cure, as an active diuretic.

Among tonics, Dr. Blackall prefers bark in young persons of sound constitution, steel in a vitiated habit, with a sallow complexion. Mercury, as tending to produce the appearance of a coagulum, or even of blood, is forbidden where this appearance already exists; but where the bile passes off by the kidneys, or where their discharge is only scanty and high coloured, mercury may be the most effectual remedy. Two grains of calomel every night seem to have converted an anasarca after scarlatina into a hydrocephalus internus; while on the other hand digitalis with topical bleeding has completely succeeded in curing a hydrocephalus. Mustard cataplasms quickened with oil of turpentine are recommended to be applied to the feet in this disease; and we agree with our author in thinking this remedy frequently preferable to a common blister for the relief of local affections.

A concise and comprehensive account of almost all that has been observed concerning the angina pectoris forms an Appendix to the volume. In general Dr. Blackall coincides in opinion with Dr. Parry respecting this disease, though he remarks that in some cases the term syncope appears to be inapplicable. In the treatment, he observes that its connexion with gout or rheumatism ought to be kept in view: he recommends drains, especially issues in the thighs, or rather setons about the chest; opium in large doses, and the immersion of the arm affected in hot water, have been found very useful palliatives.

We cannot agree with Dr. Blackall when he says (p. 259) that the ancients, 'not without much propriety, termed the

natural secretion an *exhalation*,' and, (p. 264.) 'that the fine material, which lubricates internal surfaces, is not liquid, but something more volatilised.' We are utterly ignorant of any 'experiments of Mr. Hunter,' which can be said to prove so paradoxical a proposition. It is firmly established, by the most accurate physical experiments, that no aqueous vapour can exist under the atmospherical pressure at a temperature lower than 212°; and there is no vital power which has hitherto been shown, or even suspected, to exist, that can supersede this law of inanimate nature, and communicate to a watery fluid the power of remaining permanently elastic at the ordinary temperature of the animal body. It is only in very elevated situations, where the barometer is always low, that even Lavoisier's reasoning, respecting the possible existence of ether as a vapour within the body, could be at all admissible. We also entertain doubts of the propriety of the expressions, that the '*blood* has been found *inflamed;*' (p. ii.) 'a severe and long continued *inflammation* of the *blood*, not connected with any *corresponding* affection of the internal parts.' (p. 117.) We strongly suspect that the improper use of the term 'inflammation' has insensibly led the author to the reasoning which follows; 'can we suppose it possible that such a disposition as this should be merely general? Or, is the cellular membrane in these instances' of dropsy, 'the seat of an obscure inflammatory process?' We see no difficulty in supposing the *possibility* that the disposition should be general, or that the blood may exhibit a buffy coat in dropsy as well as in inflammation; though we do not mean to insist on the probability of the fact.

Among the difficulties to be encountered by those who, like our author, are laudably employed in applying chemical tests to nosological distinctions, the complicated nature of the products to be examined, in a state of health, is one of the greatest. In illustration of this observation, we may adduce the analysis of the fluid which has been the principal subject of Dr. Blackall's investigations, from a paper of Professor Berzelius, published in the last volume of his Essays. Afh. III. 97.

Water	933.00
Urea	30.10
Sulphate of potass	3.71
Sulphate of soda	3.16
Muriate of soda	4.45
Phosphate of soda	2.94
Muriate of ammonia . . .	1.50
Superphosphate of ammonia .	1.65
Uncombined lactic acid, lactate of ammonia, peculiar animal extract and mucilage, and urea in triple combination	17.14
Neutral earthy phosphates .	1.00
Uric acid	1.00
Mucus of the bladder . . .	.32
Silica	.03
	1000.00

These proportions are however liable to considerable variation, without actual disease; in particular the uric acid may be entirely wanting, when the perspiration has been abundant. Some of the substances here enumerated would present but little difficulty in the operation of such chemical agents as might be employed for any purpose independent of them; while it would be highly necessary to attend to the presence of others, the complicated constitution and diversified form of which have hitherto rendered their nature and properties extremely obscure and uncertain.

ORIGINAL PAPER.

FOR THE ECLECTIC REPERTORY.

A curiously complicated case of Hernia, with the appearances on dissection. By SAMUEL COLHOUN, M. D. Physician to the out-patients of the Pennsylvania Hospital.

M..... T....., aged forty-five years, was taken ill upon the 14th of March, 1814, with the following symptoms:

At about 10 o'clock, A. M. she was seized, when to all appearance in perfect health, with a violent bearing down pain, extending in the direction of the ureters, which continued, without intermission, for some hours: the pulse was a little slower than natural, and her bowels rather inclined to costiveness. They had been moved the day before. Her constitution was delicate, and her habits active.

The expulsive efforts of the muscles of the abdomen were constant. The period of the menses, which she expected upon this day, led to the suspicion that her symptoms were to be referred to that cause. The menses appeared two days after, and seemed to render it probable.

About three weeks before, she had applied for medical assistance, with a tumour in her groin, resembling in appearance a small slightly enlarged gland, firm, with a slight degree of pain. She complained at the same time of some pain on making water, with a discharge from the urethra, which was believed to be pus. She had been attacked frequently with symptoms of gravel, and had passed matter of a sabulous nature. She had frequent desire to evacuate her urine, discharging but little at a time. Her former tendency to nephritic disease, with the present symptoms, induced the belief that her complaint arose from that cause; and, very probably, that the disease of the groin was a sympathetic effect of the absorption of pus from the surface of the urethra. On this occasion, as it was removed by the infusion of the uva ursi, the decided effect of which upon the urinary system has been advocated by some able medical men, it was concluded that the disease

was nephritis. She was purged freely with a saline medicine, which contributed much to her relief. A blister was applied to the tumour in the groin, which gradually declined, and in about eight days from the first attack, the symptoms of the disease of the bladder disappearing first, she was completely well. The issue of this attack excited attention to the bladder, to determine whether the present symptoms had not their origin in a disease of that viscus. The expectation of the monthly secretion of the uterus, with the absence of the usual symptoms of nephritic disease, induced the belief that the uterus was the diseased organ. Her bowels having been opened the day before, her system debilitated, the prevalence of typhus, and the existence of an extremely malignant case in her house at the time, induced me to pay but little attention to the usual depleting remedies, and to depend upon the use of anodynes to abate the pain of the most prominently apparent disease.

Laudanum and camphor were accordingly exhibited in liberal doses. At the end of twelve hours they had produced no effect. Warm fomentations were applied without relief. The next morning, on the 15th, a purge was administered, in divided doses, consisting of the tartrite of potash, given every two hours till it should produce an operation. It was rejected by the mouth. Injections of common salt, with water and molasses, were exhibited every half hour, with the effect at first of producing the evacuation, apparently of the lower bowels, but without any further operation. Great and distressing pain was felt in the region of the stomach. Irritating applications were made to it, but with no effect. The preparation of the purgative medicine was varied in such a manner as to render it agreeable to the stomach, until it was believed that a sufficient quantity had been retained. Injections of turpentine, with a mucilaginous vehicle, were used, unavailingly. The bowels appeared to be constipated beyond relief. The same means, however, during the night of the 16th, were continued. On inquiry next morning (17th) there was no evacuation. The abdomen was examined, and a tumour was discovered in the groin. It was found to be seated on the edge of Pou-

part's ligament, was hard and unyielding to the touch, and, on applying the hand on the lower side of the ligament, it was found to arise deeply from the muscles of the thigh, with a broad base, and apparently resembling an enlarged inguinal gland. The belly was swelled, and painful to the touch, principally in the region of the stomach.

The breadth, the base, and the hardness of the tumour prevented the exact knowledge of its origin. The advice of Dr. Hartshorne, one of the surgeons of the Pennsylvania Hospital, was requested. The tumour was examined, and upon the top of it there appeared a small elevation, which communicated the sensation of a vessel, containing a fluid, evidently moving from one part of it to another. The lower parts of the tumour were hard, and the part above alluded to formed so inconsiderable a portion of it, that the indication was extremely obscure. From the general character of the symptoms, it was suspected to be a hernia. The purging plan was continued with the utmost promptitude. Drastic injections were also exhibited till the morning of the 18th, when, from the appearances of the tumour, and the ineffectual use of the purgative plan, the assistance of another medical gentleman was called. Dr. Hewson attended. At this time the surface of the tumour had undergone some change. The swelling of the inguinal glands was distinctly perceived. The deep origin of the tumour from the muscles of the thigh by the side and below Poupart's ligament, still excited doubts concerning its nature. Stercoraceous vomiting came on in the night of the 19th. Injections of tartar emetic, in the quantity of five grains, every hour, in a gill of moderately warm water, were administered which greatly relieved the distress of the patient. No evacuation, however, was produced. On the night of the 20th, the vomiting ceased, and returned at intervals towards morning.

On the 21st our efforts were directed to nourish the patient by injections of broth, and the essence of beef extracted by heat. The vomiting, with acid and fetid eructations, alternated for two or three days. No change took place in the tumour.

On the 22d, her strength was greater, and she was improv-

ed in every way. Her bowels were unmoved, and the abdomen was very much swelled, but much less painful than it had been. The local disease had lost its effect upon the general system, and the patient was evidently better. It was concluded, that the use of the nutritive articles should be continued. On the afternoon of the 23d, rhubarb and the pure magnesia were prescribed with the intention of again attempting to move her bowels. By the next morning she had taken ʒiss of magnesia and ϑii of rhubarb, with the effect of discharging per anum, about half an ounce of reddish coloured mucus. Believing that the cathartics had been tried sufficiently, they were omitted. Nutritive articles, in which there would be little residual matter after digestion, were given, and the case was left to nature. She lingered till the morning of the 28th, when she died.

On examination, the groin presented a slightly elevated tumour, which, on applying the fingers, yielded easily, had become soft, and lost all the characters which had distinguished it during life, the structure of the skin being almost entirely decomposed. On opening the abdomen, the ilium, near its termination, was discovered to be strangulated below the femoral arch, so as to include a very inconsiderable portion of the intestine, leaving a passage for the fæces of scarcely half an inch in diameter. Adhesions had formed between the gut and the peritoneum. The cavity of the intestine communicated with the cellular tissue of the groin, into which the intestine had discharged its contents, and excited violent inflammation and mortification. It extended along the upper and inner surface of the thigh, which was filled with fæcal matter and dead cellular membrane. The structure of the parts concerned in the formation of the tumour, was completely decomposed, so that no idea could be formed of their nature.

The portion of strictured intestine was so small as to preclude the possibility of its protrusion below the edge of Poupart's ligament, in a manner to be ascertained by the touch, if no tumour below the ligament had prevented examination. The tumour appeared to have arisen in consequence of inflammation communicated to the neighbouring glands and

cellular membrane. On the rupture of the sac, which probably took place some days before death, mortification completely obliterated all traces of it.

The bladder was in its natural state, and the uterus was filled with the monthly secretion.

The symptoms produced by inflammation of the urethra; an enlargement of one of the inguinal glands; the discharge of pus from the urethra, which might readily give rise to a swelling of that nature, and her constitutional tendency to nephritis, together with the successful application of the ordinary remedies for this complaint on the first attack, tended to render the case complicated and obscure to the attending physician.

In her second attack, the symptoms of suppressed menstruation, in addition to her constitutional predisposition, the small size of the strangulated part of the intestine, together with the great enlargement of the glands, rendered it extremely equivocal and perplexing.

ORIGINAL REVIEWS.

A Treatise containing a plan for the internal organization and government of Marine Hospitals in the United States: together with a scheme for amending and systematizing the Medical Department of the Navy. By WILLIAM P. C. BARTON. A. M. M. D. Member of the American Philosophical Society, and a Surgeon in the Navy of the United States.

Si quid novisti rectius istis,
Candidus imperti, si non his utere mecum.
Hor. Epist. vi. lib. i.

Philadelphia, printed for the author. 1814. pp. 244. 8vo.

ON the 26th of February, 1811, a law was passed in Congress, for establishing Marine Hospitals in the United States. Mr. Hamilton, who then acted as secretary of the navy, was required by an article of the law, to prepare the necessary rules and regulations for the government of the institutions contemplated, and to report the same at the succeeding session of Congress. Conceiving the subject to be properly within the province of medical men, and not being himself of the profession, he was induced to request our author, at that time an acting surgeon in the navy, to commit to writing his ideas respecting the proper and systematic mode of conducting institutions of this nature, as well as any suggestions for the internal organization of the household that he might deem consistent with economy and health.

The author states, that the outlines of the plan proposed in the work before us were thrown together under circumstances by no means propitious to the undertaking; that subsequent and more mature consideration of the subject has enabled him to render the treatise more worthy of the attention of those persons for whom it was first designed: viz., the Commissioners of the Marine Hospital fund. In this improved state, with the addition of the second part, treating of the medical department of the navy, it is now offered to the public.

The author has, with great industry, collected the history of the various institutions for the reception of sick and disabled seamen, which are established in Britain and in France. He has minutely described the plan of the buildings, the arrangements of the wards or apartments, the clothing and diet of the pensioners; and has moreover pointed out the number of officers, with their respective salaries; thus conveying a fund of information, which cannot fail of being highly interesting to those for whom the report was intended. It will be impossible for us to follow the author through all these details. Though the work was originally designed for the organization of marine hospitals, and for the regulation and improvement of the medical department of the navy, it contains much information which may be advantageously applied to the preservation of the health of the sailors engaged in the merchant service. Exposed to the severest hardships, deprived of the comforts enjoyed by the meanest labourer on shore, by the discipline which must be established on board of every ship, this useful class of men are dependent on the provision supplied by those in whose service they have engaged. How much the success of commercial enterprise depends upon the healthiness of the crew, it will be deemed unnecessary for us to mention. In recommending to our merchants the perusal of that portion of the work relating to the cleansing and ventilating of ships, together with a detail of the diet that might be allotted to the men, we humbly believe, that we shall serve the cause of humanity, while the profits of the merchant will be increased.

As pointing out the means of preventing and curing one of the severest maladies afflicting those engaged in distant voyages, we shall introduce the following extract.

"The prevalence of scurvy among sailors is ever disastrous and terrific in its consequences. As it is a disease peculiarly incidental to, if not inseparable from, the seafaring life, it becomes the duty of every surgeon of a ship, and every commander, to promote the use of such prophylactics as experience has entitled to a preference. Though the disease does, undoubtedly, sometimes make its appearance in ships, garri-

sons, &c., where the men have not been confined to a diet of salted meat alone, but have been abundantly supplied with fresh beef, greens, and esculent vegetables and roots, yet there cannot be a doubt, that it generally arises from a long subsistence upon salt junk, assisted in its pernicious effects upon the system, by unavoidable exposure to cold and dampness. The most effectual remedies for this disease, are acids. Of these, juice of lemons, or limes, is to be preferred. Every ship should, therefore, be furnished with such quantities of this article, as may be sufficient to meet the probable wants of the crew."

"The mode of procuring this article from the fruit is extremely simple. The juice is expressed from the lemons, clarified, and a certain portion of rectified spirits of rum, added to it, to keep it from fermentation and spoiling."

"It is prepared in the island of Sicily, and other parts of the Mediterranean. It is purchased on the spot for 1*s.* 6*d.* sterling, (thirty-three cents) per gallon."

In support of the claims which this acid possesses as a specific in the cure of scurvy, our author has given extracts from the narratives of captain Drinkwater and Mr. Cairncross, surgeon, who were present at the memorable siege of Gibraltar, in the year 1780; a period when the scurvy raged to a great degree, and threatened the most alarming consequences. The testimony of these gentlemen strongly confirms the superior and extraordinary virtues of this remedy in the cure of that formidable disease.

From the section relating to the impropriety of frequently wet scrubbing the decks in the Winter season, we shall offer a short extract, with which we shall close the review.

"I am acquainted with no practice more pernicious to the comfort of the men, or more fraught with disease and destruction of life, than that of perpetually drenching the main, gun, and birth decks, with water. The mistaken idea of cleanliness that leads to this practice, cannot be too severely reprobated. It is not at all necessary for me, after all that has been written on the subject by English naval writers, to enter extensively into a consideration of the numerous inconve-

niences and dangers, consequent upon this ill-judged practice. It is not the object of this work to dive into medical disquisitions, but to call the attention of the navy to such points, relative to the internal economy, as call for reform. I speak now particularly of the wetting the decks in the *Winter season.* I have seen the most destructive sickness induced by this practice, indiscreetly followed during all kinds of weather, rainy, moist, wet, and cold: and I have no hesitation in saying, that, in one instance, I saw a contagious fever produced by it."

"Trotter says, that in the winter of 1793-4, a contagious fever broke out in the Russel, and is of opinion, that the frequent washing of the decks (three times a week) principally caused it." In lieu of which practice, Dr. Barton recommends "dry rubbing with stones and sand, according to the usage in the best regulated ships in the British navy. The gun-deck might be washed once a week, always choosing a fine dry day for the purpose, and the main deck twice. In the intervening time let them be dry rubbed."

The American Artists' Manual, or Dictionary of Practical Knowledge, in the application of Philosophy to the Arts and Manufactures: selected from the most complete European Systems, with original improvements, and appropriate engravings, adapted to the use of the manufacturers of the United States. By JAMES CUTBUSH. In two volumes, with thirty-four plates, and sixty cuts. Pages 1200. Philadelphia, published by Johnson and Warner, and Redwood Fisher.

THE following extract from the preface to the work, will give an idea of its design and execution.

"It was not to be expected, that the United States, possessing such an extensive territory, and with a population so small, compared with the older countries of Europe, where the number of inhabitants insures manual labour, at a moderate price, could have, hitherto, made equal advances in the arts and manufactures. Recent experience

has, however, shown us, what the united efforts of industry and enterprise, conducted by the inventive talents of our countrymen, are capable of effecting. The time has already arrived, when a general diffusion of the knowledge of Europe, on these subjects, cannot fail of being highly interesting and beneficial amongst us. And, as we are indebted to foreign publications for some of the best treatises made use of, this necessarily makes the present more a work of selection than of original matter. At the same time it may be observed, that every opportunity to avail himself of the experience of his countrymen, has been sought for by the editor, and much important information has been thus cheerfully afforded him."

We do not hesitate to pronounce this work a very important addition to our stock of practical knowledge. It is evident that much labour and industry have been employed to select the most interesting information on the manufactures of Europe, as well as to give the result of the experience of our own country. The publication is a novel one. At the present period, its utility must be fully appreciated; and we expect it will not only tend to the diffusion of knowledge on the subject of manufactures, but also stimulate to philosophical enquiry, a powerful mean of improving and perfecting our acquaintance with the useful arts. It is highly gratifying to meet with publications of this kind, which unite the means of acquiring practical information with cheapness and convenience.

The plates are numerous and well executed, and the quantity of matter is compressed in a small space, on a good type and paper.

From a book of this nature, it is difficult to make any particular extracts. We may in general observe, that the matter appears to be carefully selected, and judiciously arranged.

MEMOIRS OF J. G. ZIMMERMAN, M. D.

[From the New (London) Medical and Physical Journal; for Aug., 1812.]

JOHN GEORGE ZIMMERMAN was born on the 8th day of December, 1728, at Brugg, a small town, situated on the borders of the river Aar, near the castles of Windich and Altemberg, in the canton of Berne, about seventeen miles to the north-west of the city of Zurich in Switzerland.

His father, *John Zimmerman*, whose ancestors had, for a series of years, deservedly obtained the applause and admiration of their fellow citizens, by their personal merits, and patriotic exertions for the interests of the Republic, was eminently distinguished as an able and eloquent member of the provincial council. His mother, who was equally respected and beloved for her good sense, easy manners, and modest virtues, was the daughter of the celebrated *Pache*, who resided at a beautiful villa near Morges, in the same canton, and whose extraordinary learning and great abilities had contributed to advance him to a seat in the Parliament of Paris.

The father of Zimmerman, anxious for the future eminence of his son as a scholar, undertook the arduous task of superintending his education, and, by the assistance of the ablest preceptors that could be procured, instructed him in the rudiments of all the useful and ornamental sciences until he had attained the age of 14 years, when he sent him to the University of Berne, where, under *Kirchberger*, the historian and professor of rhetoric, and *Altman*, the celebrated Greek professor, he studied, for three years, Philology and the Belles Lettres, with unremitting assiduity and attention. Scarcely, however, had he entered on his course of study, when his industry was for a while interrupted by the sudden death of his affectionate father; a misfortune which bereaved him of his ablest instructor, and tore his heart with the severest affliction; but as time softened his filial sorrows, he renewed his studies with unceasing diligence and ardour.

The various and frequently complicated systems of philosophy which have been from time to time introduced into

the world, excited his curiosity, and stimulated his industry; and, to render himself a perfect master of this extensive branch of learning, he placed himself under the tuition of *Brunner*, one of the most zealous disciples of the *Baron de Wolf;* but the professor, unfortunately, was only skilled in the metaphysical doctrines of his great master; and, instead of leading the mind of his pupil into the broad and flowery paths of real ethics, he bewildered him in the dark and thorny mazes of vain and useless learning, until *M. Tribolet* and *J. Stapfer*, two ministers of the gospel, equally renowned for exalted piety, ardent genius, and extensive knowledge, happily extricated him from this dangerous labyrinth, and taught him, as he frequently afterwards acknowledged with the warmest gratitude, the sound doctrines of true philosophy.

Having passed nearly five years at the university, he began to think of applying the stores of information he had acquired to the purposes of active life; and, with a view of consulting his mother respecting the profession he should choose, he visited towards the end of the year 1746, his maternal relations at Morges, where she then resided. But, alas! the kind assistance which he fondly hoped to derive upon this important subject from her judgment and opinion, death had rendered it impossible for him to obtain. Distressing, however, as this unexpected event was at such a juncture, it afforded him the advantage of following more freely his own unbiassed inclination; a circumstance which is generally conceived to contribute to success; and, after mentioning the subject cursorily to a few relations, he immediately resolved to follow the practice of physic. The extraordinary fame of *Haller*, who had recently been promoted by King George the Second to a professorship in the University of Gottingen, resounded at this time throughout Europe; and *Zimmerman* determined to prosecute his studies in physic under the auspices of this great and celebrated master. He was admitted into the university on the 12th of September, 1747, and obtained his degree on the 14th of August, 1751. The promising genius of the young pupil induced the professor to receive him with every token of esteem. He ordered an apartment to be pro-

vided for him under his own roof; assisted him by his advice; superintended his studies; and behaved to him throughout his future life as a parent, a preceptor, a patron, and a friend. *Zinn*, *Caldani*, and several other eminent men, were at this time studying under *Haller*. The example of the teacher inspired his pupils with the spirit of industrious exertion; and, by their indefatigable industry, and mutual endeavours to prosecute and perfect his discoveries, they not only forwarded the progress of medicinal science, but placed the philosophy of the human body on a more sure and an almost entirely new basis. The genius of *Zimmerman*, however, was too powerful and expansive to be confined exclusively to the study of medicine: the frame and temper of the human mind, natural philosophy, and particularly mathematics, engaged a considerable portion of his attention, and, by the assistance of *M. Segner*, rewarded his toils with a large fund of valuable information. Politics, also, both as they relate to the municipal government of nations, and as they embrace that more important subject which has of late years been so well known in Europe, under the denomination of *statistics*, did not escape his investigation. To relax his mind from these severe studies, he cultivated a complete knowledge of the English language, and became so great a proficient in the polite and elegant literature of this country, that the British Poets, particularly *Shakspeare*, *Pope*, and *Thompson*, were as familiar to him as his favourite authors, *Homer* and *Virgil*. Every moment, in short, of the four years he passed at Gottingen, was employed in the useful and ornamental improvement of his capacious mind, which appears to have been stimulated by a secret presage of his future greatness: for, in a letter written during this period, to his friend *Dr. Tissot*, of Berne, he says, "I pass every hour "of my life here like a man who is determined not to be for-"got by posterity;" and even so early as the year 1751, he produced a work in which he discovered the dawnings of that extraordinary genius which afterwards spread abroad with so much effulgence.* But the ardour of his mind imposed upon

* *Dissertatio Physiologica de irritabilitate quam publicé defendit*, 4to. 1741.

his corporeal frame a task too laborious to be continually sustained; and at length his unceasing assiduities, and close application, affected his health, and produced many alarming symptoms of that grievous malady the *hypochondriasis.*

To divert his mind, and dissipate the baneful effects of this disorder, he quitted the university, and travelled for a few months through Holland, where he formed an acquaintance with the celebrated *Gaubius;* and afterwards visited Paris, where his great abilities, as a scholar and a physician, soon rendered him a conspicuous character. The amusements of Paris, however, and perhaps the envy which his superior merits raised against him in the minds of certain professional competitors, made his residence in this vitiated and tumultuous metropolis irksome and disagreeable to him; and towards the year 1752, he returned to Berne, where he enjoyed the double satisfaction of acquiring a considerable degree of practice, and of being received by all his former friends with open arms and unfeigned cordiality. During the early part of his residence at Berne, he published many excellent essays on various subjects in the *Helvetic Journal;* particularly a work on the talents and erudition of *Haller.* This grateful tribute to the just merits of his friend and benefactor, he afterwards enlarged into a complete history of his life and writings, as a scholar, a philosopher, a physician, and a man. It was published at Zurich, in one large volume octavo, and was received, as in the opinion of *Tissot* it highly deserved, with uncommon testimonies of applause.

The health of *Haller*, which had suffered greatly by the severity of study, seemed to decline in proportion as his fame increased; and, obtaining permission to leave Gottingen, he repaired to Berne, to visit his friends and to try, by the advice and assistance of *Zimmerman*, to restore, if possible, his decayed constitution. The benefits he experienced in a short time were so great, that he determined to relinquish his professorship, and to pass the remainder of his days amidst the caresses of his friends, and the comforts of his family, in this city. He accordingly requested *Zimmerman* to settle his affairs at the university, and to accompany *Madame Haller* and

her household to the new abode which had been previously provided at Berne for their reception. This embassy he performed with a pleasure flowing not only from the happiness he anticipated from the company and conversation of this agreeable and friendly family, but from a cause which was perhaps still more interesting to his heart. In the family of *Haller* lived a young lady, nearly related to him, whose maiden name was *Meley*, and whose husband, *M. Stek*, had been sometime dead. This lady, besides a sound and highly cultivated understanding, a refined taste, a quick and lively fancy, and a very brilliant imagination, possessed perhaps what is superior even to these endowments, those polite and elegant manners, that amiable mildness and serenity of temper, and that winning softness of voice, which render the sex so irresistibly charming, and insure the happiness of a husband. *Zimmerman*, whose devotion to study had not extinguished the tender sensibilities of his heart, became deeply enamoured with her charms. He offered her his hand in marriage; and, after passing some time in the gentle assiduities of love, they were united at the altar in the bands of mutual affection.

Soon after his union with this amiable woman, the situation of Physician to the town of Brugg became vacant, which he was invited by the inhabitants to fill. The regular salary annexed to this appointment was extremely small, considering the extent and population of the town; but there is something particularly fascinating to a sentimental mind in the place of early infancy; and when *Zimmerman* considered the number of relations and friends by whom he would be surrounded, he relinquished all the pleasures and advantages he enjoyed at Berne, and returned to the place of his nativity, with a view to settle himself there for life; and the practice which he immediately acquired throughout the town and surrounding country was equal to that of his friend *Dr. Hotze*, of Richterswyl. His time, however, was not so entirely engrossed by the duties of his profession as to prevent him from indulging his mind, always eager to acquire new information, in the pursuits of literature; and he read almost every work of reputed merit, whether of Physic, Morals, Philosophy, Belles Lettres, His-

tory, Voyages, or even Novels and Romances, which the various presses of Europe from time to time produced. The novels and romances of England in particular, afforded him great delight. The thoughts and opinions which occurred to him during this course of reading, he frequently committed to writing in the form of essays, and inserted many of them in a periodical paper called the Monitor, which was then published by the Philological Society at Zurich.

In the course of time *Zimmerman* added to the character of husband the pleasing relation of father, and enjoyed, in the birth of a son, and afterwards of a daughter, all that could fill the bosom of a parent with joy; health, competency, and domestic comfort. The company of his wife's mother also, a woman of extraordinary understanding, and singular endowments, and who formed a part of his household, contributed not a little to increase his felicity.

But perfect felicity is not the lot of man; and *Zimmerman*, though surrounded by every enjoyment which is usually conceived to bestow happiness, suffered a secret uneasiness to prey upon his mind. The amusements which Brugg afforded were extremely confined; and he frequently sighed for the enjoyment of that general society, in which he had found so much satisfaction and delight at Berne, at Gottingen, and at Paris. It is true, that he had many amiable friends at Brugg, but they had all their own concerns to attend to, and had little time to devote to the company of any individual. A man of letters requires a public library and periodical publications to resort to, new acquaintances to converse with, professional associates to whom he can communicate his various discoveries; all of which *Zimmerman* was in a great measure deprived of at Brugg; and the want of these resources made such a deep impression on his mind, that he fell into a state of nervous languor, or rather into a peevish dejection of spirits, and neglecting all public society, devoted himself almost entirely to a retired and sedentary life. His family was almost the only company he conversed with; study and composition the sole amusement of his leisure hours; and a correspondence with a few distant friends, particularly Dr. *Tissot*, Professor *Bonnet*,

Dr. *Macard*, Dr. *Lettsom*, and the celebrated Mr. *Deluc*, her Majesty's librarian at Windsor, his only relief against the melancholy and vexation that oppressed his mind. There is an art in being happy, which every man, who enjoys health, leisure, and competency, may in all places attain, *omne solum est patria fortis;* but every person is not possessed of it; and there are, indeed, men of very extraordinary talents, and great abilities, who are sometimes so weak, or rather so foolish, as to despise it. It is easy to image the happiness of particular conditions until we can be content with no other; but there is no condition whatever, under which a certain degree of happiness may not be attained by those who are inclined to be happy.

The great *Haller* conceived it to be of as much importance to happiness to gain the esteem as the admiration of mankind; and *Zimmerman* might upon this subject have followed, with infinite advantage, the example of his illustrious friend, who, by condescending to indulge the innocent humour and frailties of those around him, rendered himself beloved by all who knew him; and by this means, while he promoted the happiness of others, insured his own. But "a man of letters," as Dr. *Johnson* observes, "for the most part spends in the pri-"vacies of study that season of life in which the manners are "to be softened into ease, and polished into elegance; and "when he has gained knowledge enough to be respected, has "neglected the minuter arts by which he might have pleased." *Zimmerman*, indeed, frequently blamed himself for indulging this saturnine disposition, and was far from considering retirement as a duty; but he seldom had courage enough to renounce the pleasures it bestowed on him; and it was by reflecting deeply on its effects, that he was enabled so justly to appreciate its advantages.

The love of Solitude, which this disposition so strongly engendered in his mind, was not, however, suffered to interrupt in any degree the regular discharge of his professional duties; all appearance of depression vanished the moment he approached the bed of sickness; and he seldom visited a patient whom he did not afterwards find a friend.

Under these circumstances, this excellent and able man passed fourteen years of an uneasy life; but neither his increasing practice, the success of his literary pursuits,* the exhortations of his friends, nor the endeavours of his family, were able to remove the melancholy and discontent that preyed continually on his mind. The theatre on which he acted seemed too confined for the exercise of his great and extraordinary talents; and his friends conceiving that his mind might be restored to its former tone, by changing the scene and enlarging his sphere of action, endeavoured to procure him promotion. After some fruitless efforts to please him, he was, in the beginning of April, 1768, appointed, by the interest of Dr. *Tissot* and *Baron Hockstetten*, to the post of principal Physician to the King of Great Britain, at Hanover; and he departed from Brugg, to take possession of his new office, on the 4th of July, in the same year. But the hopes with which his friends had fondly flattered themselves upon this subject, were, alas! in a short time, sorrowfully disappointed. The carriage in which he and his family were conveyed to their new residence was overturned just as it was entering the gates of Hanover, and his wife's mother received a compound fracture in her leg. In

* The following is a correct list of his writings, in the order in which they appear to have been published.

1. Dissertatio Inauguralis de Irritabilitate, 4to. Gottingen, 1755.
2. The Life of Professor *Haller*, 8vo. Zurich, 1755.
3. Thoughts on the Earthquake which was felt on the 9th of December, 1755, in Swisserland, 4to. 1756.
4. The Subversion of Lisbon, a Poem, 4to. 1756,
5. Meditations on Solitude, 8vo. 1756.
6. Essay on National Pride, 8vo Zurich, 1764.
7. Treatise on Experience in Physic, 8vo. Zurich, 1764.
8. Treatise on the Dysentery, 8vo. Zurich, 1767.
9. Essay on Solitude, 4to. 1773.
10. Essay on Lavater's Physiognomy, Hanover, 1778.
11. Essays, consisting of agreeable and instructive Tales, 8vo. 1779.
12. Conversations with the King of Prussia.
13. Treatise on Frederick the Great, 1788.
14. Select Views of the Life, Reign, and Character of Frederick the Great.
15. A Variety of Works published in the Helvetic Journal, and in the Journals of the Physiological Society at Zurich.
16. A Work on Zoology.

three days after his arrival, death deprived him of a valuable friend, one of the Lords of the Regency, who had long entertained for him a sincere affection, and most cordial esteem. His colleague, jealous of his superior merit and increasing fame, contrived to vex and thwart him in the discharge of his official duties. A local disorder, under which he had laboured for many years, and which was frequently attended with excruciating pain, grew worse; and, to add still more to his misfortunes, the health of *Madame Zimmerman*, which was always very considerably influenced by his own, visibly declined. Happily, amidst this variety of vexations, his extraordinary merit forced him into very great and extensive practice, which, together with the company and correspondence he regularly maintained with his friends, engrossed his time, and prevented the recollection of his cares from preying on his mind. Scarcely, however, had he recovered his health and spirits, when he was again plunged into the deepest affliction by the loss of his amiable wife, who, after many years of lingering sufferance, and pious resignation, expired in his arms on the 23d of June, 1770. The deep and poignant sorrow he felt on this misfortune, increased the local complaint under which he laboured to so dreadful a degree, that he was obliged, on the 11th of June, 1771, to repair to Berlin, and place himself under the care of *M. Meckel*, a celebrated surgeon, for the purpose of undergoing an operation. It was performed with great skill; and he received such perfect relief, as to be able to enjoy society always with vivacity, and frequently with ease. This period, indeed, seems to have been the happiest of his life: he had the inexpressible gratification of finding himself relieved from a long and cruel complaint, of enjoying the charms of a most agreeable private society, of being universally received with the greatest attention, and of becoming acquainted with many literary characters in Germany. His reception, on his return to Hanover, was equally pleasing, and he flattered himself that he should at last enjoy a permanent state of health. But he seemed, alas! destined to experience a constant vicissitude of pleasure, and of pain; for, in a short time after his return, he experienced another source of inquietude in the death of

his wife's mother, who, except his son and daughter, whose education she had undertaken to superintend, was the only companion of his domestic hours. His children too, those common comforts to a parent under affliction, were to him additional causes of the keenest anguish and the deepest distress. His daughter had, from her earliest infancy, discovered symptoms of consumption, so strong and inveterate as to defy all the powers of medicine. During their residence in Swisserland, a young man, "as handsome in his person as he was amiable in the qualities of his mind," had, after a long intimacy, conceived a violent attachment for her: he was "the object of her first, of her only affection;" and it was mutually agreed by their parents to unite them, in proper time, in the bands of matrimony; but, soon after her removal to Hanover, it seems that, for some cause, which does not clearly appear, he put a period to his existence. This dreadful event gave a violent shock to her feeble constitution, and threw her into a languishing complaint, which at length ended in a hæmorrhage of the lungs, and in the summer of 1781 destroyed her life.

But the state and condition of his son was still more distressing to his feelings than even the death of his beloved daughter. This unhappy youth, who, while he was at the university, discovered the finest fancy and the soundest understanding, either from a malignant and inveterate species of scrophula, with which he had been periodically tortured from his earliest infancy, or from too close an application to study, fell very early in life into a state of bodily infirmity and mental languor, which terminated in the month of December, 1777, in a total derangement of his faculties; and he continued, in spite of every endeavour to restore him, a perfect idiot for more than twenty years.

The domestic comforts of *Zimmerman* were now almost entirely destroyed: he had no one, except *Madame de Dering*, the sister of *M. Strube*, Secretary of State, with whom he could "hold communion sweet and large;" and she, to complete his misery, was obliged soon afterwards to leave Hanover, and attend her husband to a distant part of Germany, where he had lately been appointed to a new employment.

The unhappy and comfortless situation of *Zimmerman*, with whom she had lived on terms of the purest friendship during his residence at Hanover, made a deep impression on her mind, and called forth all the tenderest feelings of her heart. Wisely conceiving that the only chance of preventing him from falling a victim to his affections, was by uniting him once more in matrimony with some object worthy of his choice, she carefully examined the character and disposition of her female friends, and at length fixed upon the daughter of *M. Berger*, the King's Physician at *Lunenbourg*, and niece to *Baron de Berger*, as a person in every respect qualified to make him happy. *Madame de Dering* managed the introduction with great delicacy and address; and had the pleasure to observe, soon afterwards, that the sentiments of the parties corresponded perfectly with her own. A friendship founded on a reciprocity of taste and disposition, ripened very quickly into the tenderest affection; and they were united to each other in marriage about the beginning of October, 1782. *Zimmerman* was nearly thirty years older than his bride: but genius and good sense are always young; and the similarity of their characters obliterated all recollection of disparity of age. She was well acquainted with the English language; spoke Italian with great elegance and correctness; revised his compositions with critical taste and sound judgment; and continued to the last moment of her life his tutelar deity, a pleasing companion of his prosperity, and his support and consolation in adversity. He went with her into company, had frequent parties at his own house, and enjoyed an agreeable society, which restored him occasionally to his former gaiety and good humour.

It was at this period that he composed his great and favourite work on *Solitude*, thirty years after the publication of his first essay on the subject. It consists of four volumes in quarto; the two first of which were published in 1784; and the remaining volumes in 1786. "A work," says *Tissot*, "which "will always be read with as much profit as pleasure, as it "contains the most sublime conceptions, the greatest sagacity "of observation, and extreme propriety of application, much

"ability in the choice of examples, and (what I cannot "commend too highly, because I can say nothing that does "him so much honour, nor give him any praise that would "be more gratifying to his own heart) a constant anxiety for "the interests of *religion*, with the sacred and solemn truths "of which his mind was most devoutly impressed."

During his residence at Berlin, in 1771, he had been invited to Potzdam by the King of Prussia, and had frequent conferences with his Majesty respecting the state of his health. The particulars of these conferences he communicated by letter to a friend, who, anxious to promulgate the honour *Zimmerman* had received, shewed it very injudiciously to several persons, from whose communications it was, without the author's consent, at length published; but in so false and mutilated a state, that he was induced to print a genuine copy of it in his own name. The king, while he was reviewing his troops in Silesia, in the autumn of the year 1785, caught a severe cold, which settled on his lungs, and in the course of nine months brought on symptoms of an approaching dropsy. *Zimmerman*, by two very flattering letters of the 6th and 16th of June, 1786, was solicited by his Majesty to attend him, and he arrived at Potzdam on the 23d of the same month; but he immediately discovered that his royal patient had little hopes of recovery; and, after trying the effect of such medicines as he thought most likely to afford relief, he returned to Hanover on the 11th of July following,* where he published a very particular and interesting account of his journey, and of the various conversations he had had with the King. He had, indeed, from his youth, attended to the history of the King of Prussia with that interest with which the man of genius follows the career of a great character, and entertained a high admiration of the talents, and a firm attachment to the person, of this hero. But it was not *Frederick* alone who discovered his abilities. When, in the year 1788, the melancholy state of the King of England's health alarmed the affection of

* The King only survived the departure of his physician five weeks: he died on the 11th of August, 1789.

his subjects, and produced an anxiety throughout Europe for his recovery, the Government of Hanover dispatched *Zimmerman* to Holland, that he might be nearer London, in case his presence there became necessary; and he continued at the Hague until all danger was over. The invitation of the discerning *Frederick*, and the selection of the Hanoverian Minister, who had for twenty years witnessed his abilities, gave new and flattering testimonies of his medical skill, and afforded him that highly pleasing gratification which accompanies a consciousness of the public esteem. Beloved by his particular friends, enjoying the confidence of three most potent sovereigns, possessing the voluntary approbation of the public, an ample fortune, and all the comforts of domestic life, his situation seemed to afford him once more the prospect of returning happiness. But we must not estimate the prospects of felicity by the complexion of exterior circumstances. Disease frequently racked his body with excruciating anguish; and his mind, enervated, perhaps, by the blandishments of prosperity, occasionally recoiled upon itself, and plunged him into languor and despondency. A new series of vexations also, proceeding from two different causes, sprung up at this period, and continued to poison all the sources of his happiness during the remainder of his life.

Zimmerman seems to have either forgot or despised the danger which always accompanies the task of writing the history of monarchs during the lives of their contemporaries; but he admired the character of the *King of Prussia* with enthusiastic ardour; and even so far from viewing it in the light in which it was placed by a work written by *Mirabeau*, and published in 1788, intitled, "*The Prussian Monarchy*," that he boldly entered the lists in favour of his royal friend, and published first a pamphlet, intitled, "*A defence of Frederick the Great against the Count de Mirabeau:*" and afterwards, in the year 1790, a work in three volumes octavo, intitled, "*Select views of the Life, Character, and Reign of Frederick the Great, King of Prussia.*" These works, besides many strong political observations and anecdotes of particular characters, contained many severe animadversions on the irreligion which prevailed

at Berlin, and drew down on the head of their author all the rancour of private animosity and party spirit. Truth, however, was in general on his side; and he ought to have treated the malevolent censures and illiberal attacks of his opponents with the cold and silent contempt they deserved; but men of irritable nerves are apt to be deeply affected by trifles, and the virulence with which he was pursued on this occasion gave him much vexation.

The second cause of his chagrin, at this period, arose from his strong attachment to the cause of religion, the interests of human nature, and the danger to which he saw all social order was imminently exposed. It was the anxiety and mortification he experienced upon this occasion that gave the fatal blow to his declining health, and at length deprived him prematurely of his existence; for every thing that related to the happiness not merely of individuals, but of mankind in general, was extremely dear to him; and he might well exclaim,

Homo sum, nihil humani à me alienum puto.

Morality and politics, or those principles on which the happiness of private life and the security of public order so essentially depend, had ever been subjects of his attention. The political productions of *Montesquieu* and *Rousseau*, especially those two celebrated works, *The Spirit of Laws*, and *The Social Contract*, he had deeply studied; and his writings in general, but more particularly his works on *National Pride and Solitude*, demonstrate his constant anxiety for the public welfare. The celebrity of *Rousseau*, and the prevailing propensity to follow his political tenets, caused him to regret the many erroneous positions contained in *The Social Contract*, and induced him to refute those parts of it in which the author endeavours to sap the foundation of all religious principles. In composing his *Essay on Solitude*, he was led to inquire into the rise, the progress, and the principles, of different religious sects, and to estimate their probable influence and effects upon governments; and he became firmly persuaded, to use the expression of *Tissot*, that they are "the cuckow's eggs, which can never be permitted to be hatched without endangering

the public tranquillity." A new and extraordinary society had sprung up under his own observation, which engaged his whole attention, and which well merited that of the civilized world, since it is now clear, that the great object of it was no less than to abolish all religion, to subvert social order, and to destroy thereby the happiness of mankind. This confederacy, which was denominated "*The Secret Society of the Illuminated*," had become extremely formidable in Germany; and *Zimmerman*, well acquainted with the pernicious tendency of its principles, earnestly endeavoured to oppose them, by interesting those whom it most concerned to prevent their effects. The pretence of its members was the *happiness of the people;* and, supposing this happiness to be incompatible with every species of religion and civil establishment at present existing, they cried with one voice, "*Let us destroy them all, and raze their very foundations.*" It included, in short, among its dark designs, the whole of the doctrine which the Jacobins of Paris have since so fatally put in practice; and it has been proved, by the most irrefragable documents,* that they not only maintained an intimate correspondence together long before the revolution, but that the destruction of the Christian religion, and the subversion of every throne, and of all governments, was, ever since the year 1776, the secret aim and sole object of these orders. They adopted, in short, that execrable observation known and celebrated in France and generally attributed to *Diderot:* "*Mankind will never be perfectly happy* "*and free, until the last of kings shall be strangled with the bowels of the last of priests.*" The society of the *Illuminated* was composed of five distinct classes of members, who were sounded, prepared, and raised step by step, as they discovered themselves worthy to be trusted with its mischievous mysteries. This mode of introduction, so consonant to the nature of the assembly, was first suggested in the year 1782, by *Baron de Knigge;* and, by the insinuating manners and captivating

* See Memoirs for the Plenipotentiaries assembled at Soissons, in which is demonstrated how prejudicial the society of Jesuits are to church and state.

language which the principal managers well knew how to use, the number of affiliated members increased from day to day. Many honest men had grieved in silence, on perceiving the evils which were likely to result from the baleful doctrines propagated, with equal art and industry, by this dangerous combination: but *Zimmerman* was the first who had the courage to unveil the dangerous principles of these new philosophers, to exhibit to the eyes of the German princes the risk they ran in neglecting to oppose the progress of so formidable a league. He convinced them, and particularly the Emperor *Leopold the Second*, that the views of these *illuminated* conspirators were the destruction of Christianity, and the subversion of all regular government; and that many courtiers, ministers, judges, officers in the army, prelates of the Roman church, an immense number of inferior ecclesiastics, and even some of the sovereign princes of Germany, were not only tainted by the new doctrines, but active members of the society. These exertions, while they contributed to lessen the danger which threatened his adopted country, greatly impaired his health. Deeply impressed, however, with the importance of his cause, he prosecuted his labours with unremitting attention, and devoted the hours of repose, both early in the morning, and late in the evening, to this arduous task. He seems, indeed, to have been urged by something like personal consideration; for, in a letter which he wrote to his friend *Dr. Tissot*, on the 4th of October, 1794, he says, "I may yet, before the year expires, "become a poor distressed emigrant, forced to leave his house "with the dear partner of his cares, without knowing where "to hide his head, or find a bed on which to die;" and certainly, the invasion of the electorate, the sacking of Hanover, and the necessity of abandoning it, were at that time much to be feared; for negociating alone saved a country which its arms were incapable of defending. These sentiments announce the deep depression of his mind, and evince the loss of that firm tone and vigorous exertion which was necessary to support his last endeavours to repel the impending calamity. His spirits, indeed, had received a shock from which they were unable to recover, even when the danger was removed. In

the month of November, 1794, he was obliged to have recourse to strong opiates to procure even a short repose: his appetite decreased; his strength failed him; and he became so weak and emaciated, that, in January, 1795, when he was induced to visit a few patients in his carriage, it was painful to him to write a prescription, and he frequently fainted while ascending to the room. These symptoms were followed by a dizziness in his head, which obliged him to relinquish all business. At length the axis of his brain gave way, and reduced him to such a state of mental imbecility, that he was haunted continually by an idea that the enemy was plundering his house, and that he and his family were reduced to a state of misery and want. His medical friends, particularly *Dr. Wichman*, by whom he was constantly attended, contributed their advice and assistance to restore him to health; and, conceiving that a journey, and change of air, were the best remedies that could be applied, they sent him to Eutin, in the duchy of Holstein, where he continued three months, and, about the month of June, 1795, he returned to Hanover greatly recovered. But the fatal dart had infixed itself too deeply to be entirely removed; he soon afterwards relapsed into his former imbecility, and barely existed in lingering sufferance for many months, refusing to take any medicines, and scarcely any food. He frequently said to his physicians, "*My death I perceive will be slow and painful;*" and, about fourteen hours before he died, he exclaimed, "*Leave me to myself; I am dying.*" At length his emaciated body and exhausted mind sunk beneath the burden of mortality, and he expired, without a groan, on the 7th of October, 1795.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

[From the New Medical and Physical Journal, for October, 1812.]

A very interesting Account of a Journey, undertaken in 1807, by M. VALENBERG, under the auspices of the Academy of Sciences of Sweden, for the purpose of determining the height of the mountains of Lapland, and observing their temperature, was lately published at Stockholm.—The mountains visited by M. Valenberg, make a part of the great chain which runs through Sweden and Norway, and stretches in some of its branches even to Finland and Russia. They are situated between 67 degrees and 68 degrees north latitude, and belong to the Polar regions. On several points their bases are washed by the sea, and from their summits the immense plain of the Northern Ocean is discoverable. These mountains had been only hitherto viewed in all their majestic grandeur by the Lapland Nomade, following his flocks of deer and his game. A few travellers had contemplated them at a distance, and M. de Bruck, a learned German, during his travels in Norway, approached within a short space of them; but no person had ever penetrated into this asylum of Nature, and attempted to struggle with the difficulties of ascending these summits, eternally covered with snow and ice.

The undertaking was difficult in many respects. The ascents were most excessively steep, and in climbing them the traveller was by turns suspended over deep excavations, lakes, and torrents, bottomless marshes and gulphs. He had no intelligent guide, there was no habitation on his route, and no assistance to be expected. He frequently was obliged to make circuits of many leagues to reach a summit; and he crossed not only snow and ice full of crevices, but also marshes, where he ran a continual risk of being buried in the mud and stagnant water. He passed the nights on naked rocks, without a tent or the smallest shelter; and he was frequently reduced to quench his devouring thirst by swallowing snow, which occasioned him inflammations and painful suppurations in the mouth.

M. de Valenberg's measurements give the Lapland mountains an elevation from 5 to 6,000 feet above the level of the sea. Although this elevation is less than that of the mountains of Switzerland and the Pyrenees, all the phenomena of the Alpine regions, and particularly the Glaciers, are observable. At such a proximity to the polar circle, the region of eternal snow commences at nearly 4,000 feet above the ocean, while in the Alps it begins from 7 to 8,000, and in the Pyrenees at 8,000 feet.

On the 14th of July, M. de Valenberg ascended the most considerable glacier, called Sulitelma, a Lapland word, which signifies Solemn mountain, because formerly the Laplanders adored on one of its summits their principal idol. This mountain, which is the Mount Blanc of the north, is composed of a succession of summits, of which the base has an extent of several leagues. Its greatest elevation is 5700 feet above the sea. To reach this elevation, our traveller was obliged to make his way over enormous crevices, where recently before some hunters had been engulphed with their deer and their dogs. Seas of ice have descended into the vallies 700 feet below the line of snow. There is a border of earth surrounds the ice, consisting of slime and stones. The ice of Sulitelma is very clear, and almost transparent; it is as hard as stone, but not so heavy as the ice of the sea. The traveller gives several details respecting its internal composition, the figures by which it is characterized, and the crevices formed on it. The snow is sometimes 100 feet in depth, and so hard that the footsteps leave no mark on it. That which is detached from the summits, or crevices, rolls to immense distances. Fortunately, these avalanches, in their descent, act only on inanimate nature; whatever direction they take, they seldom encounter living beings, or the abodes of men; all is desert in these regions for vast extents, where industry has gained no conquest over the solitary domain of the primitive creation.

Our traveller terminates his account by general considerations on the temperature, and by tables of meteorological observations. He determines with precision the different regions of the mountains, and characterizes them by the productions which

he found there. In proportion as the line of snow is approached, the productive force of Nature diminishes, and men, brute animals, and plants, yield to the rigour of the cold. At 2600 feet below the line, the pines disappear, as well as the cattle and habitations. At 2000 feet, the only tree is the birch; and its degraded form and indigent verdure, attest the inclemency of the climate; at the same altitude the greatest number of wild animals disappear, and the lakes contain no fish. At 800 feet below the same line of snow, the Laplander's progress is stopped for want of moss to his rein deer. Above the line, every thing presents the picture of agony and death. The most robust lichens are only to be found at 1000 feet in the crevices of perpendicular rocks, and the bird named *emboriza nivalis* is the only living creature to be seen. The heat does not rise one degree of Reaumur in the region which is 5000 feet above the sea.

Lachesis Lapponica, or a Tour in Lapland, now first published from the Original Manuscript Journal of the celebrated Linnæus. By JAMES EDWARD SMITH, M. D. F. R. S. &c. President of the Linnæan Society.

[From the Edinburgh Medical and Surgical Journal, for October, 1811.]

WHEN we commenced our plan of selecting from voyages and travels, and works upon general subjects, such extracts as in any way promoted the advancement of our professional knowledge, we had no idea that Linnæus himself should contribute to the value of our periodical publication. We have often had occasion to rejoice that the manuscrips, herbarium, and library of the illustrious Swede fell into the hands of a gentleman who has shown himself so worthy of possessing them. Through his zeal and devotion to the study of nature, they have been kept in a state of unremitting activity, instead of being left to waste and moulder in the useless museum of a foreign potentate. We doubt even if the present Journal, notwithstanding the value attached to it, after it had

been permitted to be sold and carried out of the country, would ever have been communicated to the public, if unfortunately the King of Sweden had succeeded in his design of intercepting the Linnæan collection.

"The biographers of Linnæus have often mentioned the Journal of his Lapland Tour, to which he himself has frequently adverted, in various parts of his voluminous works, under the title of *Lachesis Lapponica*. The publication of this Journal has been anxiously desired; and so valuable was the manuscript considered, that on his whole collection and library being sold, after the death of his son, it was remarked that these papers at least ought to have been detained in Sweden, as a national property; the journey which they record having been undertaken at the public expense, and the objects illustrated thereby being, necessarily, more important to the author's countrymen than to any other people. This remark, however, was not made till long after the manuscript, with all the treasures which accompanied it, had escaped, by land and by sea, the pursuit instituted by the Swedish monarch to recover them, and had reached England in safety. It became a duty for their fortunate possessor to render them useful." Pref. p. vii. viii.

In carrying this laudable design into effect, difficulties occurred in decyphering and translating the original notes, which nothing short of the zeal of Dr. Smith could have overcome. But we are not only indebted to the President of the Linnæan Society for having given us this work, but also for the manner in which he has given it to us. While the three weeks ramble of every superficial traveller is now made to assume the imposing and extravagant form of imperial quarto, the scientific tour of the great Linnæus, through an almost unknown country, is presented in moderate but respectable octavo. It cannot be uninteresting to know Linnæus's preparations for such a journey; to know how much he depended upon his own energies—how little he valued adventitious assistance.

"Having been appointed by the Royal Academy of Sciences to travel through Lapland, for the purpose of investi-

gating the three kingdoms of nature in that country, I prepared my wearing apparel and other necessaries for the journey as follows:

"My clothes consisted of a light coat of Westgothland linsey-wolsey cloth without folds, lined with red shalloon, having small cuffs and collar of shagg; leather breeches; a round wig; a green leather cap, and a pair of half-boots. I carried a small leather bag, half an ell in length, but somewhat less in breadth, furnished on one side with hooks and eyes, so that it could be opened and shut at pleasure. This bag contained one shirt, two pair of false sleeves, two half shirts, an inkstand, pencase, microscope, and spying-glass, a gauze cap to protect me occasionally from the gnats, a comb, my journal, and a parcel of paper stitched together for drying plants, both in folio, my manuscript Ornithology, *Flora Uplandica* and *Characteres generici*. I wore a hanger at my side, and carried a small fowling-piece, as well as an octangular stick, graduated for the purpose of measuring. My pocket-book contained a passport from the Governor of Upsal, and a recommendation from the Academy." I. p. 1, 2.

Linnæus proceeded from Upsal northwards, along the west side of the Gulf of Bothnia, till he came to Tornea, at its northern extremity, and he returned along the eastern side to Abo, from which he crossed the Gulf to Upsal. But from Umoea, Pithoea, Lulea, and Tornea, he penetrated into various districts of Lapland, upon one occasion crossing even to the coast of Norway. As must necessarily occur in a journal, the same observations are frequently repeated, but still that repetition is not altogether without its use, as they refer to different places. We shall begin our extracts with what he has said of the diseases of the people whom he visited, their modes of cure and prejudices.

When in Lycksele Lapland, he says he made some inquiries concerning the diseases of the people.

"When, as occasionally happens in the course of the summer, they cannot procure fresh water, and are necessitated to drink the warm sea water, they are infallibly tormented with griping pains, with strong spasms in the region of the sto-

mach, and pain in the lower part of the abdomen, accompanied with bloody urine. This is a species of cholic, and is called *ullem*. It generally lasts but one day, rarely two. The same thing happens if they drink before they have broke their fast in a morning." I. p. 126, 7.

"They are subject to the *ullem*, or colic, of which I have already spoken, p. 127, for which they use soot, snuff, salt, and other remedies. The pain sometimes seizes them so violently that they crawl on the ground while it lasts, not being able to stand or lie still. They are also afflicted with the asthma, epilepsy, and a swelling of the *uvula*. The husband of a woman who had the last-mentioned disorder, cut away a part of the swelling, but it grew as large again in the course of a twelvemonth. The *prolapsus uteri* also sometimes occurs.

"Many persons have the pleurisy, and others rheumatic complaints in the back, which descend down the hips and legs, leaving the part first attacked. These complaints happen in summer as well as in winter." I. p. 136, 7.

"As to the diseases of these people, I was informed here that fevers are very rare indeed, and that the small-pox is also of very unfrequent occurrence. Hence, when it does come, many old people with grey hairs fall a sacrifice to the latter disorder, which, however, is not widely communicated, any more than fever, because of the very thin population. Of intermittent fever I met with only one example, and of *calculus* another. They cure a cough by sulphur laid on the lighted fungus which serves them as tinder, or on the fire, the smoke of which inhaled into the lungs is esteemed a specific; but it is a very fallacious one. For the headache a small bit of the aforesaid fungus is laid on the place where the pain is most violent, and being set on fire, it burns slowly till the part is excoriated. This therefore is the *moxa* of the Laplanders. In case of a *prolapsus uvulæ* they cut off the protuberance with a pair of scissors. For the colic or belly-ache they rub the nails with salt, besides which, they administer oil internally." I. p. 170, 1.

When at Lulea, he observes,

"The inhabitants here are frequently afflicted with the

scurvy, whence arise ulcers of the mouth and *uvula*, ulcerous sores and swelling of the feet, as well as aching pains in the legs and feet, and dropsical swellings of the latter." I. p. 239.

The diseases of the Lapland Alps he thus describes:

"I was informed that in this neighbourhood the inoculated small-pox is remarkably fatal. If the patients have but seventy or eighty pustules, they die of it as of the plague. They fly to the mountains, when infected, and die. The same is the case with the measles. It appears that both these diseases are aggravated by the violent cold, whence the patients die in so miserable a manner.

"Swelled necks (goitres) are frequent.

"Sore eyes are universal, especially in the spring, when the Laplanders remove towards the Alps. The glittering of the snow has then a pernicious effect on their eyes. Aged people are very often blind.

"Female obstructions are rare, though sometimes met with among the better sort of people; neither are the *catamenia* immoderate, nor in common so copious as with us. The Lapland women are entirely ignorant of the *leucorrhœa*.

"Of hysterics I met with but two cases. One maid-servant, twenty-four years of age, had the complaint about once a-year; another about thirty, was attacked with it monthly during the summer.

"Epilepsy sometimes occurs. Headaches are frequent; hence the forehead is often full of scars (from the application of their *toule* or *moxa;* see Vol. I. p. 274.)

"Elderly people are often hard of hearing.

"The sleep of the Laplanders is commonly sound, and they are in the habit of sleeping or waking whenever they please.

"A swelling or falling down of the *uvula* is not uncommon, in which case they frequently cut off the part affected.

"When children are troubled with swellings in the glands about the throat, the usual remedy is to prick the part, and suck out the blood, which is considered as a speedy and effectual cure. If this method be not adopted, they suppose the

blood would rise to the head, and cause cutaneous eruptions there.

"Coughs are of very rare occurrence, notwithstanding the constant practice of drinking snow and ice water, even after swallowing pure grease or fat, which perhaps may prevent its bad consequences. However this may be, the Laplanders seldom die from catching cold. Cases of *phthisis*, or consumption do indeed now and then occur among them, and pleurisies are very common, especially in spring and autumn. Lumbago, or pain in the back, is most prevalent during the summer. For this, as I have already mentioned, Vol. I. p. 274, actual cautery, by means of their *toule* or *moxa*, is often applied.

"Bleeding at the nose chiefly happens among those Lapland women who are in the service of the colonists, and who, in consequence of certain obstructions, are subject also to œdematous swellings of the feet.

"I have not heard of a single instance of jaundice.

"Some elderly people are afflicted with asthma; and hoarseness now and then occurs in the winter and spring.

"The stone and gout are entirely unknown amongst the Laplanders.

"Swellings of the lower extremities are uncommon, as these people are in the habit of swathing their legs, which renders them all slender and well-shaped. All dropsical complaints indeed are very rare, though I did meet with one case of this kind.

"Of *tenesmus* I happened to hear of but a single instance, though the Laplanders eat so much cheese and drink water.

"Disorders in the stomach are not uncommon, which are frequently attended with *diarrhœa*, and in some years this disease is contagious." II. p. 32-5.

Concerning the ophthalmia of the Laplanders he is more minute.

"All the Laplanders are usually blear-eyed, so that one would think the word *Lappi* (Laplanders) was derived from *lippi* (blear-eyed.) The causes of this inconvenience are various, but chiefly the following:

"1. The sharp winds. In the early part of my journey, repeated exposure to stormy weather rendered my eyes sore, so that I became unable to open them wide, and was obliged to keep them half shut. How much more must this be the case with those who dwell on the Alps, where there is a perpetual wind.

"2. The snow, the whiteness of which, when the sun shone upon it, was very troublesome to me. To this the alpine Laplanders are continually exposed.

"3. The fogs. This day I found myself very comfortable in my walk over the icy mountain, till the fog, mist, or cloud, which ever it might be called, came about me, rendering the eyes of my interpreter, as well as my own, so weak and relaxed, that we could not open them wide without an effort. Such must often be the case with the Laplanders.

"4. Smoke. How is it possible that these people should not be blear-eyed, when they are so continually shut up in their huts, where the smoke has no outlet but by the hole in the roof, and consequently fills every body's eyes as it passes!

"5. The severity of the cold in this country must also contribute to the same inconvenience." II. p. 5-7.

In Lulean Lapland he notices some of the remedies used in the cure of diseases.

"Their *Moxa*, as the Japanese call it, but which they term *Toule*, is made of a fine fungus found on the birch, and always chosen from the south side of the tree. Of this they apply a piece as large as a pea, upon the afflicted part, setting fire to it with a twig of birch, and letting it burn gradually away. This is repeated two or three times. It produces a sore that will often keep open for six months afterwards, nor must it be closed till it heals spontaneously. This remedy is used for all aches and pains; as the headache, toothache, pleurisy, pain in the stomach, lumbago, &c. It is the universal medicine of the Laplanders, and may be called their little physician.

"*Kattie* is a kind of drawing or ripening plaster made in the following manner. The fine loose scaly bark of birch is set on fire, and immediately quenched in water. It is then chewed, in the same manner as when wanted for cementing earthen-

ware together, and afterwards mixed with fresh turpentine from the spruce fir, both being kneaded together by the hands, till the mass becomes a black uniform plaster. This has a very emollient quality, and is successfully applied to hard imposthumes, &c., which it brings to maturity without pain in a short time, and promotes their discharge." I. p. 274, 275.

"An ointment for burns is made of fresh cream boiled to a thick consistence, with which the sore is anointed. It removes the pain, and admirably promotes the healing of the ulcer.

"For chilblains, the oil or fat which exudes from toasted reindeer cheese, rubbed upon the part affected, is a sovereign cure. Some persons use dog's fat for the same purpose. The latter is also used for pains in the back, being rubbed in before a fire.

"The drug called castor is one of their great remedies for every disease, and the gall of the bear is another." I. p. 276.

"The people here, who dread their children should be marked with that kind of spot called *Eldmarke*, which resembles a burn, as soon as the umbilical cord is cut, rub some of its blood upon the face, hands, and breasts of the infant, by way of prevention." I. p. 254.

"The Laplanders of Westbothnia give their young children the unripe berries of this shrub (*arbutus uva ursi*,) boiled, by way of a laxative or purge. Ten or twelve are the usual quantity, but the dose varies according to the age of the patient." I. p. 250.

'Lying-in women at this place (Kimi,) are accustomed to drink brandy seasoned with pepper, partly for the sake of its intoxicating quality, by way of a narcotic, and partly to bring on the labour pains. The clergyman's wife told me an infallible method, as she said, to prevent the pains which often follow childbirth. When the woman's first child is born, and the umbilical cord divided, a spoonful of the blood is given her to swallow. This is to be practised at every succeeding labour, and I was assured that each would be rendered more easy, without any after pains." II. p. 147, 148.

But upon the whole, the Laplanders are exceedingly

healthy, and Linnæus has assigned what appeared to him the reasons:

1. "The extreme purity of the air, which seemed to give me new life as I inhaled it.

2. "The use of food thoroughly dressed.

3. "Eating their food cold; for they always let their boiled meat cool before they taste it, and do not seize it with avidity as soon as it comes out of the pot*.

4. "The purity of the water.

5. "Tranquillity of mind. They have no contentions, neither are they over and above careful about their affairs, nor addicted to covetousness. Their lives are protracted to extreme old age.

6. "Their never overloading the stomach, while the rustic of other countries eats till he is ready to burst.

7. "Deficiency of spirituous liquors. Of these they rarely taste, and only in such quantities as to be rather beneficial than otherwise.

8. "Their being inured to cold from their infancy renders them hardy.

9. "Probably the quantity of flesh they eat may prolong their lives, as carnivorous animals are longlived." I. p. 334, 335.

The remarkable agility of these diminutive people is frequently noticed with envy by our wearied traveller, and he has inquired into its causes at great length; but for this we must refer to the work itself, Vol. I. p. 325., as we wish to extract what he has said of the diseases of their domestic animals.

"The following are the disorders or inconveniences to which the reindeer are subject.

"When the frost is so intense as to form an impenetrable crust on the surface of the snow, so that the animal cannot break it with his feet, to get at the Lichen on which he feeds, he is frequently starved to death. This misfortune is as dreadful to the Laplanders, as any public or national calamity else-

* "Linnæus's expression is, 'they do not spring upon it with boots and spurs."

where; for, when his reindeer are killed, he must himself either starve to death, beg for his livelihood, or turn thief.

"The hoofs of the reindeer are not uncommonly affected with a swelling at the edge where they are attached to the skin, at which part they consequently become ulcerated, and are seldom healed. The creature thus grows lame, and cannot keep up with the herd.

"These animals are sometimes attacked with a *vertigo*, or giddiness in the head, which causes them to run round and round continually. The people assured me, that such of them as run according to the course of the sun may be expected to get the better of the disorder; but those which turn the contrary way, being supposed incurable, are immediately killed. The recovery of the former is thought to be promoted by cutting their ears, so as to cause a great discharge of blood.

"The *Kurbma*, or ulceration caused by the gad-fly, (see Vol. I. p. 280.) takes place every spring, especially in the younger fawns. Such as are brought forth in the summer season are free from this misfortune the ensuing spring, but in the following one many of them lose their lives by it. When come to their full size and strength, the consequences are less fatal; but no reindeer is entirely exempt from the attacks of this pernicious insect.*

* "Concerning the spots or imperfections in the skins of reindeer, it is certain they originate in the perforations made by insects, probably a species of *Tabanus*, through which those insects introduce their eggs. When the young ones arrive at maturity, they come forth by the same passage, and the wound is closed by a scar. On this subject, lest any one should be misled by authority, or by the writings or reports of others, I shall quote the learned work of Linder on *Syphilis*, p. 11. "Reindeer in Lapland are subject to the small-pox, which in Norland is termed Kormsiuka, as I was informed at Wicksbergensbrun by Zachary Plantin, master of arts." In this the able writer has been totally misled, by a person usually esteemed no less honest than profoundly learned. I cannot however conceive how a man, who values himself upon such a character, should willingly and deliberately propagate a falsehood. He ought on the contrary, rather to aim at correcting it. If the reindeer should even have the small-pox every year, this supposed disease will prove on examination nothing else than the sting of the gad-fly (*Oestrus Tarandi*). Did any man ever advance such an absurdity! Even the Laplanders themselves call the disease *Kurbma* (which is the name of the fly that actually causes it)." I. p. 280, 281.

"The fawns are of a reddish hue the first season, during which they cut their foreteeth. In the autumn they turn blackish, and have fodder given them. They are when young frequently afflicted with a soreness in the mouth, so as to be unable for a while to eat.

"Reindeer are subject to a disease called by the Laplanders *Pekke Kattiata*, accompanied with ulcerations of the flesh, which, however, often heal by a sloughing of the part affected. This is an epidemic disorder. It is believed that if any of the ulcerous part, which is cast off, be swallowed by the animal, in licking his own coat, or that of any other of the herd labouring under this malady, it proves fatal by corroding the viscera.

"The dugs of the female often become chapped or sore, so as to bleed whenever they are milked." II. p. 37—40.

"Every body at Tornea was continually talking to me of a distemper to which their horned cattle are subject, and which kills many of them in the course of the winter, but especially in the spring, when they loose from fifty to a hundred head of cattle almost every year. On walking to examine the meadow into which they were first turned out to grass, I found it a bog or marsh, where the Water Hemlock, *Cicuta aquatica*, (*C. Virosa*, *Sp. Pl.* 366. *Fl. Lapp. n.* 103. *Engl. Bot. t.* 479.) grew in abundance, and had evidently been cropped plentifully by the animals in feeding. It seemed probable therefore, that they eat it most in the spring, when first turned into this pasture: whence it proves so much more extensively fatal than in summer, when perhaps they only pick up a plant here and there. It grows in all the moist meadows which are mown for hay; consequently the cattle take it likewise in their winter food, and therefore perish, more or less, during that time of the year. We learn from Wepfer's experiments, who gave it to various kinds of animals, what violent symptoms it occasions. See his book. Nothing appeared to me so interesting during my visit to Tornea, as to examine into the cause and remedy of this evil. If my ideas be right, the whole might be prevented by employing a woman for a month to eradicate all the *Cicuta;* by which this town, small as it is, might save above two hundred silver dollars. I was informed that the cattle dying from

this cause become so infectious, that they cannot be flayed without great danger. The persons employed in that business have their hands greatly swelled by touching the carcase, and several have lost their lives in consequence. The plant in question, therefore, agrees in qualities with the *Oenanthe*, as it does likewise in place of growth and outward appearance, especially in the *pinnæ* of its leaves."*

* "A few further remarks on the above subject, printed in the *Flora Lapponica*, may be acceptable to the English reader.

"This disease made no regular progress, nor was it communicated by infection from one animal to another. The cows are driven altogether in the spring to feed in a meadow, near the town, to the southwest, on the other side of a creek of the river, in which I was informed the greatest mortality happened. The symptoms differ in different cases; but all the cattle, feeding indiscriminately, are seized with a swelling of the abdomen, attended with convulsions, and die with horrid bellowing, in the space of a few days. No person dares venture to flay the recent carcases, it having been found by experience, that not only the hands, but even the face in consequence of the warm steams from the body, become inflamed and gangrenous, and that death finally ensued.

"I was asked whether this disease was a kind of plague; whether the meadow in question produced any venomous spiders; or whether the yellow-coloured water was poisonous?

"That it was no plague appeared from its not being contagious, and from the spring being its most fatal season. I saw no spiders here, except what are common throughout all Sweden; nor was the yellow sediment of the water any thing more than a common innocent ochre of iron.

"I had scarcely landed from the boat in which I was taken to this meadow, than the *Cicuta* presented itself before me, and explained the cause of all this destruction. It is most abundant in the meadow where the cattle are first seized with the distemper, especially near the shore. The slightest observation teaches us that brute animals distinguish, by natural instinct, such plants as are wholesome to them, from such as are poisonous. The cattle therefore do not eat this hemlock in summer or autumn; whence few of them perish at those seasons, and such only as devour the herb in question incautiously, or from an inordinate appetite. But when they are first turned out in the spring, partly from their eagerness for fresh herbage, partly from their long fasting and starvation, they seize with avidity whatever comes within their reach. The herbage is then but short, and insufficient to satisfy them; probably also it is in general more succulent, immersed under water, and scarcely perceptibly scented; so that they are unable to distinguish the wholesome from the pernicious kinds. I remarked every where that the radical leaves only were cropped, no others; which confirmed what I have asserted. In a neighbouring meadow I saw this same plant cut with the hay for winter food; so that it is no wonder if in that state some, even of the more cautious cattle, are destroyed by it." *Fl. Lapp. ed. 2.* 76.

[From the London Medical and Physical Journal for May, 1812.]

Cure from the Bite of the Snake, Coluber Naga, Fort St. George, Madras.—I am induced to give the following history of the situation of a Sepoy bit by a Coluber Naga, as I think it may be useful in showing how much is within the power of early assistance to preserve life in all cases where the bite of that dangerous snake may be on the extremities, and when on any other part of the body, that the farther progress of danger will be arrested, if the part bit is cut out while there is a chance of recovery.

On the 30th ultimo, in the afternoon, Syed Mahomet, a Sepoy, about 38 years of age, one of the guard at Mr. Cassamajor's house, was brought to me with two ligatures drawn tight round his arm, one near the shoulder, the other a little above the elbow; he told me he had been bit by a Cobra Capello in the outer part of his left hand between the little finger and the wrist, where a small wound appeared, from which a little blood oozed; that he was asleep at the time, but was instantly roused by an acute pain, darting up his arm; the Sepoys on guard immediately applied the two ligatures I have mentioned, and being shown the broken part of the wall near to which their companion was bit, they searched and found a Cobra Capello, which they killed and brought to me; it was a half-grown Coluber Naga, between three and four feet long.

More than half an hour from the accident had elapsed before I saw him; he then laboured under extreme pain in the whole hand and forearm to a little above the elbow, where the first ligature was applied. From so much time having elapsed, which would have proved fatal had not the ligatures been applied, I was doubtful of success, from the poison having extended its influence so far; but as there was no other affection of the body, except what was raised by the acute pain from the fingers to below the second ligature, I was induced to cut out the piece bit at even this late period, and immediately immersed the whole left arm in warm water; the wound bled freely, and as he felt relief by compressing the arm with both hands, and compressing it always from the elbow to the wrist,

this was continued in warm water for above half an hour, when I had the gratification to find that the acute pain had descended to near the wound; I then ventured to remove the two ligatures on the arm, and continued the immersion in warm water for above half an hour longer, without any tendency to ascension of pain; I therefore gave him two glasses of brandy in water, and sixty drops of laudanum, to relieve him from a sense of bulk and weight in his hand, more distressing than acute pain, and causing a tendency to syncope; ordered a large poultice to the hand, and I desired him to inform me if any acute pain should again dart up from the wound, or further than the elbow. There was then no tension or swelling except a little on the back of the hand; but the uneasy sensation I have mentioned continued in the evening, and which I did not expect would subside for some time.

31st.—Slept none all night, from a throbbing lancinating pain all over his hand and forearm up to where the lowest ligature was applied, the whole swelled and tense, with a considerable increase of heat—ordered the poultices to the wound to be frequently repeated; he slept a little in the day-time, and ate victuals. Afternoon—As the swelling, tension, and heat, of the forearm and hand had considerably increased, with the lancinating throbbing pain up to the elbow, accompanied with quick full pulse, severe head-ache, and other febrile symptoms, which seemed to threaten a serious termination if a check was not put to the progress of rapid inflammatory action—with this view ten leeches were applied where there was greatest pain, and the bleeding from their bites encouraged by fomentation; considerable relief was thus obtained, and a complete intermission from fever took place in the evening—gave him some brandy and water, as he complained of weakness.

1st April.—No tension now on the forearm, swelling diminished, but there is still a lancinating throbbing pain to a little above the elbow where the first ligature was applied; he had a recurrence of fever about midnight, a very short cold stage, a hot fit for about four hours, and profuse sweating for about an hour longer; a complete intermission then took place, and the fever in a similar form again recurred to-day at noon.

For the relief of pain five more leeches were applied, and with success; finding the fever of an intermittent nature, though of an universal form, I ordered bark.

2d.—Fever recurred last night, as before, about midnight, but without any sensible cold stage, and ceased with sweating about five in the morning; skin this morning cool, pulse 84, and rather weak—he vomited his bark last night—is hungry and desirous of food—throbbing lancinating pain gone, only a little soreness on the back of the hand and fingers, which are swelled, and the swelling has a firm feel—ordered the bark to be given in brandy and water. Evening, took five drachms of bark, which did not disagree with his stomach—fever however returned about midnight, but of a much shorter duration, and followed by a more profuse perspiration—no sleep from the pain near the elbow, where the second ligature had been applied, and throbbing lancinating pain on the back of the hand and fingers, and particularly the joints, where the firm swelling continues. Some relief obtained by fomentation—took his bark as before—no fever to-day at noon;—as so much benefit had been obtained by leeches, five more were applied, two to the elbow and three to the back of the hand—ordered the bark to be taken till midnight.

4th.—No fever, but he was prevented from sleeping by a throbbing pain in his fingers, stretching up to the back of his hand; his fingers, and particularly their joints, still swelled and hard—ordered more leeches, as nothing seems more effectual in removing the suffusion produced by the action of the poison and the throbbing pain connected with it. The patient at his own request had ten leeches applied to his fingers and knuckles, by which he says the pain in his hand, the only remaining pain, is entirely removed. As he complains of weakness, ordered him some brandy and water.

5th.—No fever or pain; great weakness in the muscles of the hand or forearm, and the wound does not yet put on a healthy suppurating surface. The leeches applied to the forearm have all been in a line from the wound to the elbow, showing the pain there to have been greatest, from the patient having pointed out the places. Sent home as out of danger.

This case I consider interesting, as it shows the action of

the poison of the Coluber Naga, where vital parts are not primarily affected; and, as such an opportunity of knowing it but seldom occurs, I have thought proper to give it in detail.

The observations to be drawn I think are, that this man's life was saved by the early application of a ligature, and to the arm, where there being only one bone, a sufficient compression to prevent the further influence of the poison could be made.

2d.—That the excision of the part bit, by a removal of the poison instilled into the wound, prevented any farther action; for at no time was there any distress beyond the ligature above the elbow.

3d.—From the time that had elapsed before excision, and the full influence of the poison as far as the ligature above the elbow admitted, that it is probable the poison of the Coluber Naga is not absorbed into the system, but acts on the nerves; for, if absorption had taken place, its further progress, on the removal of the ligatures, could not have been prevented, and would have proved fatal; and which probably shows the advantage of cutting out the bite at all times.

4th.—From there being no tension or swelling excepting on the back of the hand, and none followed by the application of the two ligatures, the intermediate part of the arm between them, the distress that occurred from swelling, tension, heat, throbbing, and lancinating pain, must all be considered characteristic of the action of the poison, and probably also the form of the fever; the utility of the exhibition of the bark may thus be doubted, the fever ceasing with the cessation of the cause.

5th.—That the inflammatory action induced seems analogous to what occurs in membranous inflammation, and proceeded with that activity as at one time to threaten sphacelus, had not the free application of leeches and abstraction of blood by subsequent fomentations checked the increased excitement: showing strongly the activity and power of even the influence of the poison that had been communicated from the wound, for the poison itself I consider to have been removed by the excision.

(Signed) A. BERRY.

UNIVERSITY OF PENNSYLVANIA.

At a Public Commencement held on the 9th day of April, 1814, the degree of Doctor of Divinity was conferred on the Rev. Frederick Beaseley, Provost of the University; and the Degree of Doctor of Medicine on the following gentlemen.

From Massachusetts.

Thomas Russell.

New-York.

Henry Field,
Andrew Proudfit.

New-Jersey.

Francis H. Brognard,
Samuel Oldden,
William H. Reynale.

Pennsylvania.

Moses B. Smith,
Thomas P. Anthony,
Franklin Bache,
Joseph Blackfan,
John Redman Barnhill,
John Craig Heberton,
George W. Brown,
Frederick A. Muhlenberg,
Henry M'Murtrie,
William Shippen,
John H. Quinn.

Delaware.

James P. Lofland.

Maryland.

Michael Diffenderffer,
William Thomas,
James H. M'Culloh,
Robert Duer,
Charles Campbell,
Edward Spidden.

Virginia.

Charles Carter,
Edmund P. Taylor,
James Blair,

John Upshur,
William M. Alexander,
John W. Johnson,
William H. Hening,
Henry W. Tucker,
John Field,
Andrew Field,
Henry Lewis,
John H. Cutler,
John W. King,
Richard A. Carrington,
William P. Jones,
Reuben Meredith,
Richard May,
John Dove,
Lee Griggs,
John S. Hardaway,
William E. Horner,
Dudley Burwell,
William B. Westmore,
Corbin Braxton,
Samuel G. Fauntleroy.

Kentucky.

Churchill J. Blackburn,
Daniel Caldwell,
James R. M'Conochie.

North-Carolina.

Carter Edmunds.

South Carolina.

Charles Rutledge,
Charles Lee Edwards,
Alexander S. Moore,
John M'Caa,
William Langley, Jun.
Charles M. Reese.

Georgia.

John A. Casey,
John Dent.

St. Croix.

Baron Frederick Von Bretton.

FOR THE ECLECTIC REPERTORY.

Statement of Deaths, with the diseases and ages, in the City and Liberties of Philadelphia, from the 1st of January 1813, to the 1st of January 1814.

DISEASES.	Under 1 year	From 1 to 2	From 2 to 5	From 5 to 10	From 10 to 20	From 20 to 30	From 30 to 40	From 40 to 50	From 50 to 60	From 60 to 70	From 70 to 80	From 80 to 90	From 90 to 100	From 100 to 110	From 110 to 120	Total
Abortion	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Asthma	0	0	0	1	0	1	3	3	0	2	3	0	0	0	0	13
Abscess	0	1	0	0	0	1	0	1	1	1	0	0	0	0	0	5
Aneurism	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Apoplexy	1	0	0	0	2	4	7	5	3	5	2	0	0	0	0	29
Atrophy	3	0	4	0	1	0	3	2	1	2	1	1	0	0	0	18
Burns	3	1	1	0	0	0	0	0	1	0	0	0	0	0	0	6
Cancer	0	0	1	0	0	0	2	0	1	2	0	1	0	0	1	8
Casualties	0	1	1	0	0	3	2	0	0	2	0	0	0	0	0	9
Catarrh	1	0	0	0	1	0	3	1	0	0	0	0	0	0	0	6
Child Bed	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	4
Cholera Morbus	107	51	12	1	2	1	1	1	1	0	0	1	0	0	0	178
Cholic	2	0	0	0	1	1	0	0	1	0	0	0	0	0	0	5
Consumption of the Lungs	7	2	2	3	3	12	58	55	37	19	7	11	0	0	0	216
Convulsions	115	15	21	4	2	2	3	2	1	0	1	0	0	0	0	166
Caries	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Decay	9	2	3	1	1	4	12	5	5	4	5	3	0	0	0	54
Diarrhœa	7	3	5	2	0	2	2	2	2	3	3	0	0	0	0	31
Dropsy	1	0	2	2	1	3	6	7	6	7	2	5	0	0	0	42
of the Breast	3	0	1	2	0	1	2	2	4	3	0	0	0	0	0	18
in the Brain	17	11	7	0	2	0	0	1	0	0	0	0	0	0	0	38
Drowned	1	0	1	5	2	1	1	1	4	0	0	0	0	0	0	16
Diabetes	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Dysentery	8	3	12	11	8	7	6	3	5	2	4	0	0	0	0	69
Drunkenness	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3
Disease in hip joint	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Debility	5	3	1	0	3	2	5	6	3	7	4	3	0	0	0	42
Epilepsy	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3
Erysipelas	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Eruptions	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Fracture	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	4
Fever	6	4	5	3	3	4	8	3	1	3	0	1	0	0	0	41
Intermittent	0	0	2	0	0	0	1	0	2	0	1	0	0	0	0	6
Remittent	1	1	1	1	2	0	0	3	0	0	3	0	0	0	0	12
Bilious	1	0	0	1	1	6	0	3	2	3	0	1	0	0	0	18
Nervous	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	5
Malignant	0	0	0	1	1	0	2	2	0	0	0	0	0	0	0	6
Typhus	2	3	5	4	10	19	22	14	9	9	4	1	0	0	0	102
Puerperal	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Hectic	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Inflammatory	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Mortification and Gangrene	2	0	0	1	0	0	1	2	1	0	3	0	0	0	0	10
Gout	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
Gravel	1	0	0	1	1	1	0	0	1	0	0	0	0	0	0	5
Carried over,	305	102	78	47	51	84	152	129	95	78	44	28	0	0	1	1204

DISEASES.	Under 1 year	From 1 to 2	From 2 to 5	From 5 to 10	From 10 to 20	From 20 to 30	From 30 to 40	From 40 to 50	From 50 to 60	From 60 to 70	From 70 to 80	From 80 to 90	From 90 to 100	From 100 to 110	From 110 to 120	Total
Brought forward,	305	102	78	47	51	84	152	129	95	78	44	28	0	0	1	1204
Hooping Cough	9	8	9	3	0	0	0	0	0	0	0	0	0	0	0	29
Hives	10	8	13	3	0	0	0	0	0	0	0	0	0	0	0	34
Hernia	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Hæmorrhage	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
Hydrophobia	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Inflammation of the Brain	1	1	0	1	1	1	3	0	0	0	0	0	0	0	0	8
of the Lungs	2	2	1	0	1	1	1	3	1	0	0	0	0	0	0	12
of the Stomach	7	3	4	0	3	3	1	2	2	1	0	0	0	0	0	26
of the Bowels	7	4	2	3	0	3	2	2	0	3	2	0	0	0	0	28
of the Liver	2	3	1	2	0	0	2	1	5	1	1	0	0	0	0	18
Insanity	0	0	0	0	0	5	10	5	1	2	2	0	0	0	0	25
Jaundice	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	3
Locked Jaw	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Measles	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Murdered	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Old Age	0	0	0	0	0	0	0	0	0	0	7	19	6	1	0	33
Pleurisy	5	1	4	1	1	3	8	5	7	10	3	1	0	0	0	49
Palsy	0	0	0	0	0	1	1	2	1	1	4	1	0	0	0	14
Rheumatism	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	4
Rupture	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Scrofula	2	2	0	1	2	0	0	0	0	1	0	0	0	0	0	8
Sore Throat	5	3	4	0	0	0	0	1	1	1	0	0	0	0	0	15
Still Born	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66
Suicide	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Sudden	2	0	1	0	0	0	1	5	4	1	3	1	1	0	0	19
Spina Bifida	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Syphilis	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Strangury	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	3
Teething	4	4	0	1	0	0	0	0	0	0	0	0	0	0	0	9
Ulcers	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Wounds	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Worms	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	8
Unknown	1	0	1	0	0	3	1	0	0	1	0	0	0	0	0	7
Total,	431	144	130	64	62	107	186	158	120	102	68	51	7	1	1	1632

NOTE. Of the above there were 521 males of twenty years and upwards, 308 under twenty years: of females 322, of twenty years and upwards, 388 under twenty years; and 93 children, principally under one year, whose sex is unknown. It also appears that there were interred in the Public Burial Ground 659, which added to the above will give a grand Total of 2291.

Deaths in each month of the above period.

	Adults.	Children.	*Total.*
January	77	52	129
February	54	28	82
March	70	59	129
April	93	59	152
May	82	38	120
June	60	58	118
July	54	114	168
August	85	148	233
September	85	94	179
October	66	45	111
November	57	39	96
December	61	54	115
Total	844	788	1632

By order of the Board of Health,

JOHN ALLISON, Clerk.

Health Office, February 1st, 1814.

HUMANE SOCIETY.

At the general meeting of the Members of the Humane Society of Philadelphia, held on the 2d instant, agreeably to their Act of Incorporation, and to public notice, the following persons were duty elected Managers, for the present year, viz.

Joseph Crukshank,	Samuel Pancoast, jun.
Charles Marshall,	William Leedom,
Benjamin Thaw,	Matthew L. Bevan,
Dr. Thomas C. James,	John Bacon,
Dr. Joseph Parrish,	William Hembel, jun.
Dr. John Moore,	Isaac Snowden.

And at a meeting of the Managers, this day, the following officers were chosen:—

Joseph Crukshank, *President.*
Joseph P. Hornor, *Treasurer.*
Isaac Snowden, *Secretary.*

Inspectors of the Apparatus.

William Leedom,
John Bacon.

Committee of Correspondence.

Dr. Thomas C. James,
Dr. Joseph Parrish,
Dr. John Moore.

March 9, 1814.

Doctor Currie of Philadelphia, proposes to publish, in the course of the ensuing summer, A Synopsis, or general view of the most noted theories or doctrines of diseases that have been taught at different periods to the present time, with an attempt to establish a more correct and satisfactory Theory of Fever, than any that has hitherto appeared.

A Volume of Desault's Surgery, on the Diseases of the Bones, was sometime since published in this city. We were much gratified to find that two more Volumes of the works of this justly celebrated Surgeon, have lately been published under the following title:—The Surgical Works, or statement of the Doctrine and Practice of P. J. Desault, Surgeon in Chief of the Great Hospital of Humanity, at Paris; by Xavier Bichat, his pupil, adjunct Physician of the same Hospital. In two volumes. Diseases of the Soft Parts. Translated from the original, by Edward Darrell Smith, M. D. Professor of Chemistry, &c. in the South-Carolina College. Philadelphia, published by Thomas Dobson. 1814.